Blue Cat's DP Meter Pro User Manual

"A unique audio meter and side chaining tool"

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Note: *An online version of this user manual is available here.*

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Introduction

Description

Blue Cat's DP Meter Pro (DPMP) is a unique audio analysis tool: it combines very flexible and customizable audio meters with advanced side chaining control capabilities thanks to its MIDI and automation outputs.

The metering capabilities of the DPMP plug- in let you control and monitor audio signals exactly the way you want: almost every aspect of the peak, RMS and crest factor meters can be customized. It proposes five different scales by default, including Bob Katz's popular K- System scales (K-12, K-14, K-20), and you can create your own.

Large colored statistics displays following your own scales are included for an overview of a track, while histograms give you a precise measurement of the dynamic range of the track. The graphs show the evolution of the audio envelopes over time, and the mid- side switch lets you verify mono compatibility problems and check the "stereoness" of your audio sources very easily. Whether you are working with mono, stereo or surround tracks, this plug- in will fit into your workflow.

All envelopes (peak, RMS, crest factor...) can be reused for additional monitoring or side chaining purposes: combined together, reversed, modified and recorded as automation curves or sent as MIDI CC messages, they can control other effects in real time.

The DP Meter Pro Tutorials explain how to use these unique capabilities in your favorite host. Possibilities are endless, from voice over and ducking to side chain compression, multiple tracks monitoring or dynamic stereo enhancement. It is also possible to control external MIDI hardware (such a synths, MIDI effects), video effects or lighting systems with an audio signal.

Typical applications: *Audio levels monitoring, crest factor measurement, dynamic range display, ducking, advanced side chaining techniques, signal- based envelope generation.*

Features

Main Features

- Multichannel peak, RMS & crest factor meter.
- True dynamic range measurement with levels histograms.
- Instant, average and maximum audio levels.
- Modular user interface to fit into your workflow, with multiple screen sizes.
- Total control over the metering characteristics, including attack/ release shape.
- Bob Katz's K- System scales support (K-12 / K-14 / K-20 and custom)
- Mono, stereo, mid- side or surround analysis.
- Record measurements (peak, RMS, crest factor, clip etc.) as automation curves.
- Control in real time any MIDI- compatible plug- in or external MIDI device with the generated envelopes thanks to the plugin's MIDI CC output. See the Tutorials section for more examples.
- Manage the shape of the output envelope: record reversed envelope, change amount of signal, and offset the generated envelope. This lets you use the plug- in for side chain ducking, compression and much more.
- Easy 'stereoness' and phase cancelation measurement.

Blue Cat Audio Standards:

- Available as: Mac- AAX, Mac- AU, Mac- RTAS, Mac- VST, Win- AAX, Win- DX, Win- RTAS, Win- VST, Win x64- AAX, Win x64- DX, Win x64- VST.
- Native DSP code for optimal performance.
- Full MIDI control and automation support with silent, zipper- free parameters update, advanced response control and MIDI Learn.
- No CPU load on idle: when the plug- in is fed with silence, the processing smoothly shuts down, to optimize the CPU usage of your Digital Audio Workstation.
- Skinnable and customizable user interface with transparency management.
- Automation and MIDI output: record output parameters as automation curves or send MIDI CC messages to other plug- ins for powerful side chain effects.
- Smooth Bypass: activate/ deactivate the plug- in with absolutely no noise.
- Undo/ Redo.
- Full featured integrated presets manager.
- Copy/ paste the plug- in's state between instances using the system clipboard.
- Any sample rate supported.

System Requirements

Windows

- An SSE2- enabled processor (Pentium 4 or later).
- Microsoft Windows XP, Vista, Windows 7 or 8.
- Any DirectX / VST / RTAS / AAX compatible host software (32 or 64 bit).

Mac OS X

- An Intel processor.
- Mac OS X Mavericks(10.9), Moutain Lion (10.8), Lion (10.7), Snow Leopard (10.6), or Leopard (10.5).
- Any VST / Audio Unit (32/64- bit) / RTAS / AAX compatible application.

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For more information about supported platforms, see our FAQ.

Installation

Blue Cat Audio plug- ins cannot be run standalone, they require a host application (see the System Requirements chapter for more information). Depending on which host application you use, you might need to install the plug- ins in different locations.

Windows

Install

All versions of the plug- in provide an installation program. Follow the steps of the wizard to install the plug- in on your machine. During the installation you will be asked where you want the plug- in(s) to be installed. For the VST version you should install the plug- in inside the VST plug- ins folder used by your host application(s). The default path set in the installer should work for most applications, but you should check your host software documentation to know where it looks for VST plug- ins.

Some applications will not automatically rescan the new plug- ins, so you might have to force a refresh of the plug- ins list.

Upgrade

When a new version of the plug- in is released, just launch the new installer: it will update the current installation.

Uninstall

To uninstall the plug- in, simply launch the "Uninstall" program that is available in the start menu or in the configuration panel. It will take care of removing all files from your computer.

Mac

Install

On Mac the plug- ins are available as drive images. After download, double click on the file to open it. You can then drag and drop the plug- in file(s) to the shortcut that is provided within the image. It will install the plug- in(s) for all users on the machine.

In case you do not have admin rights on your Mac or if you want to install the plug- in(s) to another directory, just copy the files to the appropriate location. If required, more information is available in the README.txt file that is included in the package.

Upgrade

When a new version of the plug- in is released, open the new image and copy the files over the previous ones. The new version will replace the older one.

Uninstall

To uninstall the plug- in, simply remove the plug- in components from the folder where you have copied them during install (move them to the trash).

If you want to completely remove all settings and configuration files, you can also remove these additional directories that may have been created on your computer:

- ~/ Library/ Preferences/ Blue Cat Audio/ [Plug- in name and TYPE], where TYPE is VST, AU, RTAS or AAX: global preferences.
- ~/ Library/ Preferences/ Blue Cat Audio/ [Plug- in name]: license information
- ~/ Documents/ Blue Cat Audio/ [Plug- in name]: user data, such as presets, additional skins and user- created plug- in data.

Just beware that these directories may contain user data that you have created. Remove these directories only if you wo not want to reuse this data later.

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Using Blue Cat's DP Meter Pro

Introduction

Blue Cat's DP Meter Pro is an all- in- one audio levels meter. It provides a comprehensive and accurate picture of the audio levels. It is also able to generate envelopes for parameters modulation.

Disclaimer

This Plug- in is **NOT** a loudness meter, as specified in the ITU and EBU recommendations. It is an audio levels meter that measure physical quantities, as opposed to perception- related quantities.

Levels?

Before using the plug- in, it is important to understand what it is measuring. Several types of values are measured and displayed by Blue Cat's DP Meter Pro.

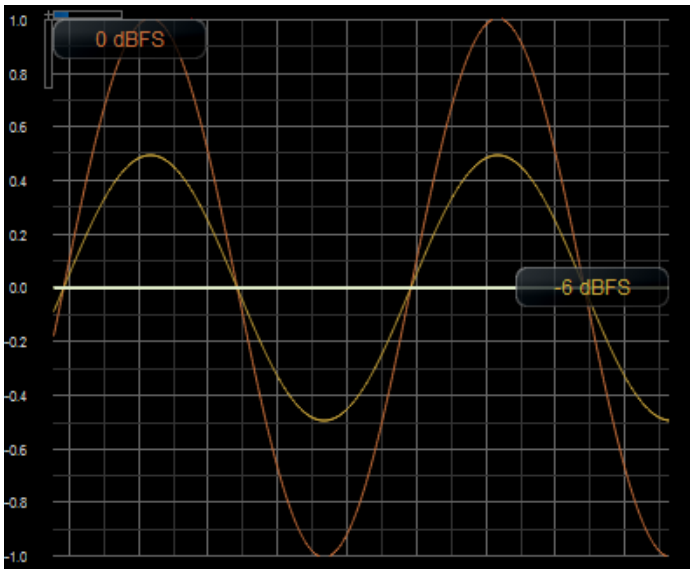
In a few words:

- **Peak level** is the maximum level of the waveform, important for your DAW and equipment. Any value above 0 dBFS means clipping and distortion.
- **RMS level** is the energy the waveform, important for loudness and your ears. The larger the value, the louder the signal.
- **Crest factor** is the difference between the peak and RMS levels. The higher the crest factor, the more dynamics, the lower the crest factor, (probably) the more compression or clipping.

Peak level

The peak level is the measurement of the intensity of the signal, relative to "full scale", in decibels (dB).

In the digital domain where audio samples are represented with floating point numbers, full scale (0 dBFS) corresponds to a value of 1. The example below shows two sine waves with a peak value of 1 and 0.5 (resp. 0 dBFS and -6 dBFS):



As you can see, the peak value is the "top value" of the waveform. When the intensity of the waveform varies over time, the peak value changes as well. That's the reason why the plug- in lets you adjust the *attack*, *hold*, and *release* time of the envelope following algorithm. It manages how fast the plug- in reacts to level changes.

The peak level does not tell you how loud the signal is (our hears are more sensitive to the short term energy than the actual peak), but it is what your Digital Audio Workstation (DAW) is sensitive to: at the output of the DAW, levels above 0 dBFS will clip and result in distortion.

RMS Level

RMS stands for "Root Mean Square". The RMS level is the square root of the average of the squared signal. To put it simply, it is an average value that relates to the energy of the signal.

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The "scientific" value of the RMS level for a 0 dBFS sine wave (as shown in the previous paragraph) is -3 dB. However, audio engineers have been used to calibrating their level meters such as the RMS level of a sine wave is 0 dB. This is the reason why the plug- in offers a +3 dB boost option. It is used by default, except for the "scientific" scale. The values expressed in this manual will refer to the audio RMS value, with the +3 dB boost.

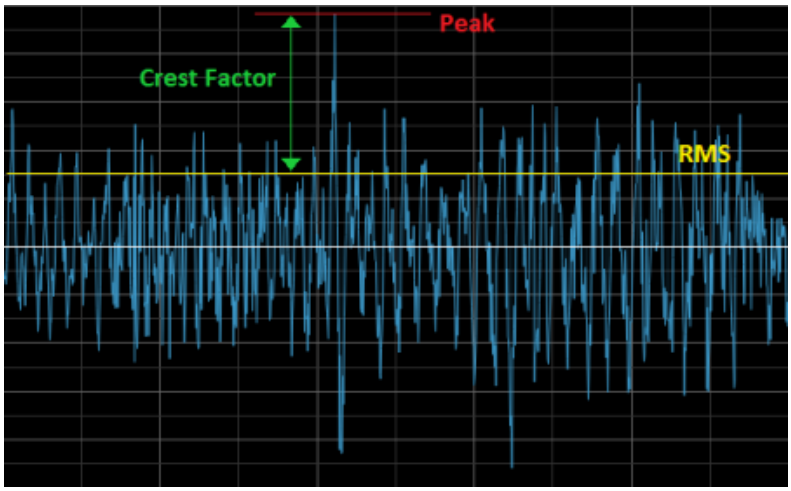
Since the RMS value is also a time- varying value, the plug- in lets you manage the *length* of the sliding window used to compute the value.

Since the RMS value relates to the energy of the signal, it is a good representation of loudness, as a "physical" quantity. Exact *perceived* loudness, is a different thing though, since the ear is not equally sensitive to all frequencies. But physical loudness is the only quantity which absolute value has a physical meaning inside the DAW, since the actual perceived loudness will also depend on the acoustic reproduction system. the listening setup (speakers, room) and amplification level.

Crest Factor

The crest factor, also known as peak over average ratio (PAR), is the difference in decibels between the peak and the RMS levels.

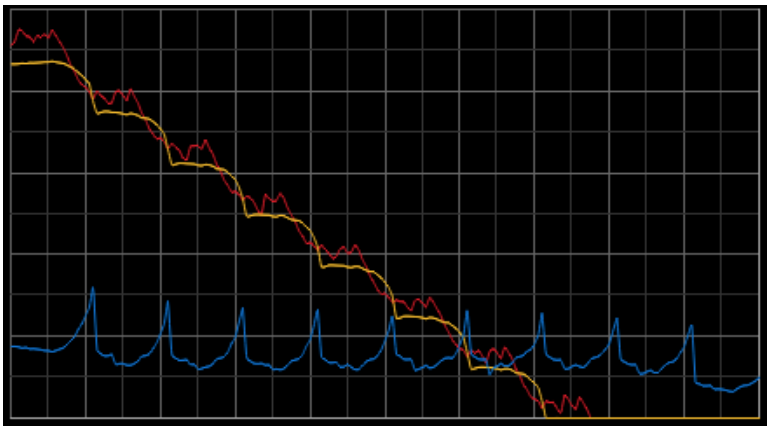
On the graph below that shows a typical audio waveform, you can see how this value relates to the distance between peaks and the average:



Crest factor is thus mainly used to understand the shape of the waveform, and quantify its "dynamics". A higher crest factor means more dynamics, while lower values mean more compression, and sometimes distortion: 0 dB will be reached with a pure sine wave, while a usual value for crest factor on mastered music is in the 6 to 15 dB range (from pretty compressed to pretty uncompressed).

Individual instruments may produce larger crest factors (especially percusive instruments). Also, you will notice jumps of the crest factor at playback start and stop, as there is a huge intensity gap between "silence" and "sound".

An interesting property of the crest factor is its independence from the average level of the signal: it is only dependent on the shape of the signal, as you can see in the picture below. It represents the peak (red), RMS (yellow) levels and the crest factor (blue), while playing the tail of a sound fed into a digital delay:



As you can see, the shape of the crest factor remains the same while the intensity of the signal is decreasing.

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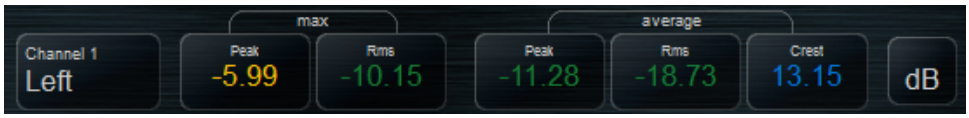
Since the crest factor is also a time- varying value, it is important to note that it is computed on the same temporal window as the RMS value. With shorter lengths, faster value changes.

Instant / Max / Average

While the meters show instant levels, the plug- in can also display longer term statistics:



The instant value is the short- term or real time value: "right now".

The average value is the average over time since last reset (you can click on the value to reset the average).

The max value is the absolute maximum value over time since last reset (you can click on the value to reset it).

Dynamic Range

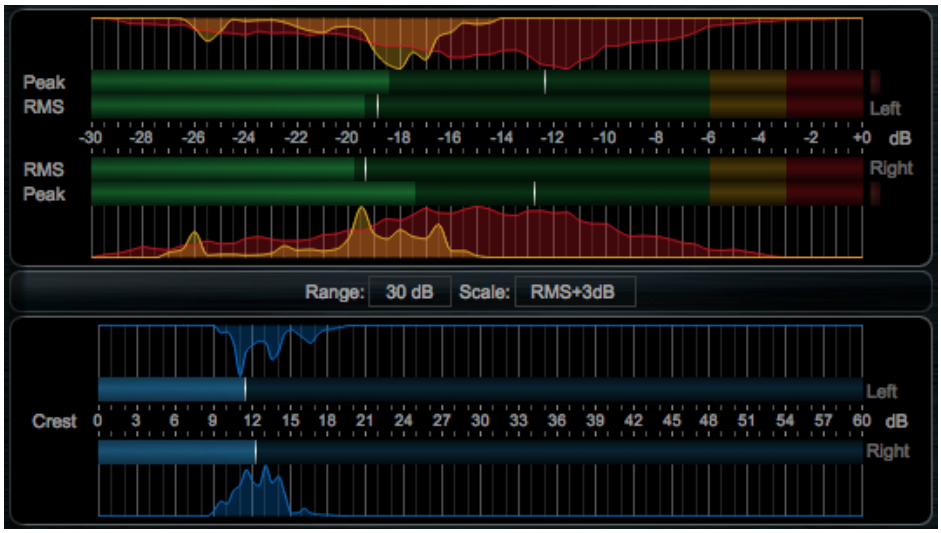
The global dynamic range of a song is the difference between the loudest and quietest levels. This value is however not very useful if you have no idea of the exact distribution of levels during the song (how long are quiet versus loud moments?). That's the reason why the plug- in proposes other ways of looking at the dynamics.

Dynamic Range vs Crest Factor

Some people make the confusion between the crest factor and the dynamic range, but these two terms have different definitions. While the crest factor may give a good idea of how much compression has been applied to a track, it may have no relationship with the overall dynamic range at all: as seen above, the crest factor is independent of the loudness, and it is only related to the shape of the waveform.

Histograms

In order to get a good picture of the dynamic range, the plug- in proposes histograms that show the distribution of levels in a chosen timeframe (up to 1000 seconds).



Typical histogram for a quiet jazz song

The distribution of RMS values (yellow) gives a good idea of the actual dynamic range and how much "dynamic" the song will sound. The distribution of peak values (red) and its relationship to RMS is also a good indicator of the dynamics (related to compression or limiting this time).

Last, the distribution of crest factor (blue) indicates how much the dynamics of the song changes over time. You can look at it as how natural the song sounds: no changes in the crest factor may mean that the song is too "flat" and sounds the same from the beginning to the end (possibly inducing listener fatigue). The screenshot below illustrates this with an over- compressed song:

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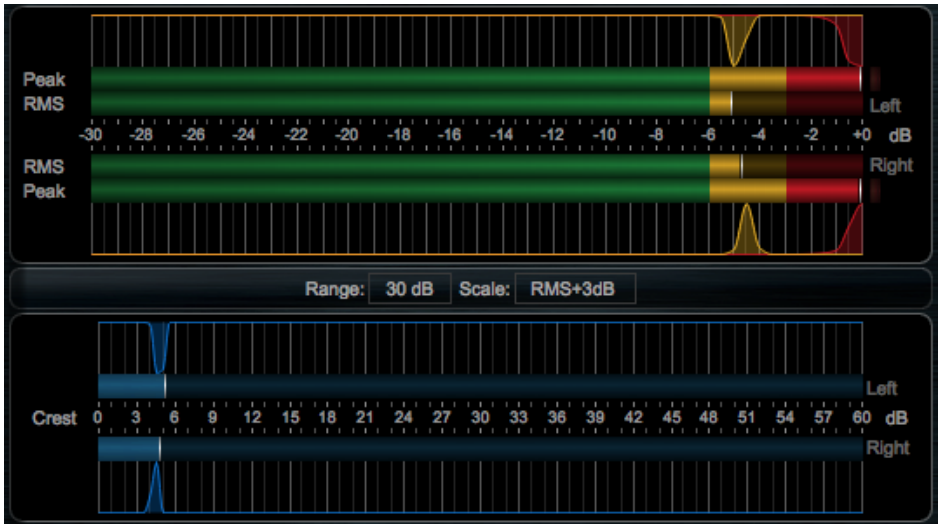


Overcompressed song (artificial)

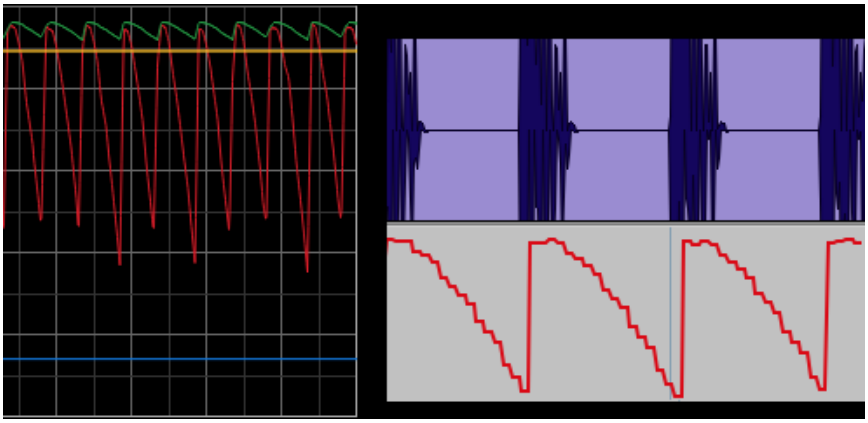
As you can see, all three histograms are flat, and the difference with the jazz song above is obvious.

Please note that the sample above is artificial (it was generated by pushing an already mastered song into a brickwall limiter)

Envelope Generation and Side Chaining

As you can see, this plug- in generates a lot of meaningful information from the incoming audio signal. This information can be visualized in the user interface, but it can also be reused for other purposes.

The idea is that all computed parameters (levels, crest factor etc.) can be recorded as automation curves in most DAWs (and then reassigned to other parameters), or sent as MIDI CC messages in order to control other equipments (plug- ins, software or hardware synths etc.). It is thus possible to control your DAW with sound or develop advanced side chaining techniques.



Peak automation generated for a kick

The envelopes can be precisely generated by the "transformed" parameter, as its shape can be controlled in details, as shown later in this manual.

The User Interface

Note: The main toolbar, menus and basic features available with all our plug- ins are detailed in the Blue Cat Audio Plug- ins Basics section.

The Plug- in comes in three flavors (Mono, Stereo or Surround) that all share similar characteristics. The user interface has been designed in a modular way, so that you can activate each view separately depending on the information that you want to display.

Overview

At the top of the interface, below the main toolbar, you will find a couple of buttons to activate or deactivate each view. There are also several functions that affect the entire plug- in:

1. Show/ hide the statistics view.
2. Show/ hide the levels meters (button top), and the crest factor meters (button bottom).
3. Show/ hide the histograms for all visible meters.

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4. Show/ hide controls for analysis and envelope generation setup.
5. Show/ hide the history view (envelopes).
6. Select the size of the user interface (small, medium and large).
7. Freeze all meters and graphs.
8. Brightness control: use this knob to reduce the brightness of all meters and graphs.

The three other buttons at the top left are described in details later in this manual. They let you bypass the plug- in, change the opacity of the window and show/ hide the automation and MIDI control setup buttons.

Statistics

In the statistics view you can see, for each available channel, the maximum and average values for levels, and the average value of the crest factor.

Values are displayed with colors that correspond to the scale chosen in the level meters view. It is possible to check quickly if levels are "right" thanks to their color. You can customize these scales to create your own green / yellow / red limits.

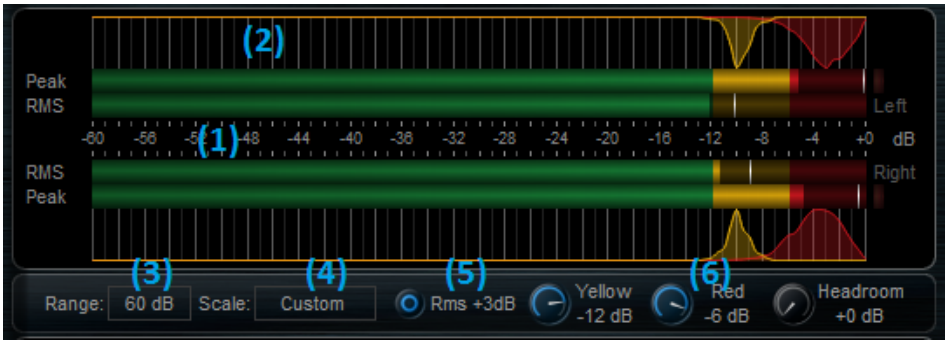
Clicking on a value will reset this value for all channels. Clicking on the dB button at the right of a row will reset all values for all channels.

For the mono and surround versions of the plug- ins, clicking on the channel name lets you rename it. The stereo version automatically renames the channels when changing to and from mid/ side mode.

In case of clipping (signal above 0 dBFS), a "clipped" message will appear on the clipped channel. Clicking on it will reset the clip status for all channels.

Level Meters

The level meters view displays peak and RMS levels as well as their histograms. It is also the place where you can customize the scales and color ranges:



1. Peak and RMS meters for each channel, with temporary hold meters.
2. Histograms: peak histogram in red, and RMS in yellow. Clicking anywhere on the histogram will reset all histograms for all channels, including the crest factor. The integration time (length) for the histogram can be changed in the controls view.
3. Select the meters range (120, 60 or 30 dB).
4. Choose the scale:
    - Scientific: dBFS scale, with no RMS boost (RMS meter is calibrated to -3dB for a sine wave).
    - RMS +3dB: dBFS scale, with 3dB RMS boost (RMS meter is calibrated to 0dB for a sine wave - this is the recommendation for audio).
    - K-12: Bob Katz's K-12 scale in the K- System, with 12 dB headroom.
    - K-14: Bob Katz's K-14 scale in the K- System, with 14 dB headroom.
    - K-20: Bob Katz's K-20 scale in the K- System, with 20 dB headroom.
    - Custom: build your your own scale. You can customize it using the controls described in (5) and (6).
5. +3dB RMS boost. Use this option to calibrate the RMS computation at 0 dB for a sine wave (instead of -3 dB).

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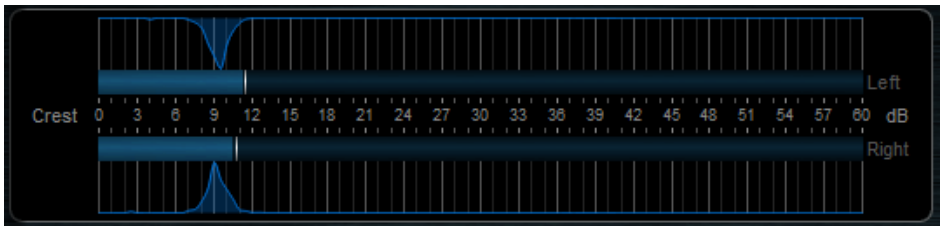
6. Customize the green, yellow and red color ranges, and choose your own headroom. Headroom will offset the 0 dB value so that 0 dBFS relates to +Headroom decibels. These changes also affect the values displayed in the statistics view.

Crest Factor Meters

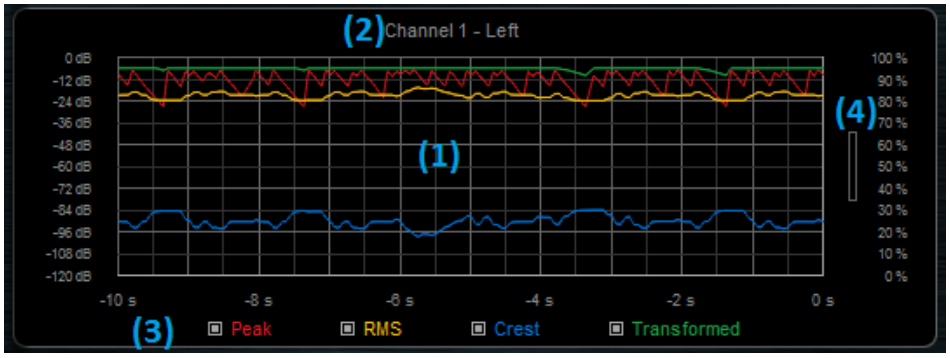
This view displays the crest factor meters and histograms for each channel:



Clicking on the histograms will reset them for all channels.

History

The history view displays the envelopes for peak, RMS and crest factors as well as the transformed envelope:



1. Envelopes display. The left scale refers to levels (full scale), and the right scale is for the transformed envelope. Please note that the scale for the crest factor is not displayed (its range is half the range of other levels).
2. The surround version lets you choose which channel you want to display by clicking on the name. The stereo version displays two graphs, one for each channel.
3. Show/ hide envelopes by clicking on the buttons.
4. You can zoom to reduce the vertical range. Once zoomed, dragging the graph with the mouse will move it up and down.

This view is particularly useful to control the generated envelopes when using the plug- in as a side chain source.

Controls

Analysis, metering and envelope generation settings can be controlled in details in this view:

The main parameters you will want to change to quickly adjust your meters are:

- The peak **Release** time (to control how fast the peak meter decreases).
- the RMS **Average** (to control how fast the RMS and crest meters react to signal changes)
- The history length (**Hist.**) to define histograms' memory.

Other parameters provide advanced control over the meters to really tweak their response. They are particularly useful for envelope generation and side chain control, or if you are looking for very specific ballistics.

Audio Analysis

The stereo version offers a drop down menu at the top right of the analysis box to switch between **stereo** (left/ right) and **mid/ side** mode. In mid/ side mode, the mid channel represents the mono part of the signal, and side the stereo part. This is useful to monitor

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how wide your mix is, and check that there is no mono compatibility (drops in the mid level shows that left and right channels may be out of phase).

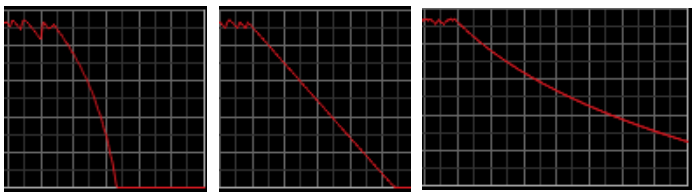
Separate settings are available for peak and RMS/ crest analysis:

Attack controls how fast the peak meter reacts to signal increases. You will usually keep this time short (or even set to zero) so that you can measure the actual peaks. But increasing the value will give the meter a more analog feel, missing peaks, like a VU-meter. It can also be used to generate smoother envelopes.

Hold controls how much time the peak meter will hold its current position before starting falling down, when the level is decreasing.

Release controls how fast the meter reacts to signal decreases. The shorter the value, the faster the meter will follow the decreasing signal. The duration correponds to a decrease of 20 dB when silence is fed into the plug- in while the peak level was non- null.

Attack and Release **Shape** modify the shape of the curves. Positive shape values will increase the duration over time, while with negative values, the meter will react faster over time:



Shape = -25% Shape = 0% Shape = +25%

Changing the shape modifies the duration of the fall, but the initial slope of the curve remains unchanged.

Note: the effect is less noticeable on the attack because of the logarithmic nature of decibels, but the principle is the same, and it strongly affects the way peaks are caught.

RMS Average is the duration of the sliding window used to compute the RMS value. Decreasing the value will make the RMS meter react faster to the incoming signal, and increasing the value will turn the RMS value into a longer average, more stable over time. *Please note that this also impacts the crest factor value in a similar way, as it is computed with the exact same duration*.

Histogram

Drag the histogram knob to change the integration time. This controls the memory (duration) for the histogram. If you want a long memory, you can push it up to 1000 seconds.

Clicking on the button on the right will reset the memory for all histograms (just like clicking on a histogram).

Peak Hold

The temporary hold meters for all levels (including the crest factor) can be customized here. Set the "Reset Speed" to 0 dB/ s if you want these meters to keep track of the maximum value forever.

Output Envelope Generation

The "Out Envelope" box is dedicated to the transformed envelope for parameter modulation and side chaining. It can also be used to monitor any value on the history view, in addition to regular peak and RMS curves.

1. Choose the value type: levels (peak/ RMS), levels hold (Peak/ RMS hold), Crest (crest factor), Crest Hold (crest factor hold).
2. For "level" or "level hold" value types, you can blend peak and RMS levels together to compute the transformed envelope.
3. Apply an offset (moving up and down), and an amount (increasing or decreasing amplitude) to the chosen value. This lets you precisely control the shape of the output envelope.
4. Reverse the envelope after the amount and offset have been applied.

Example:

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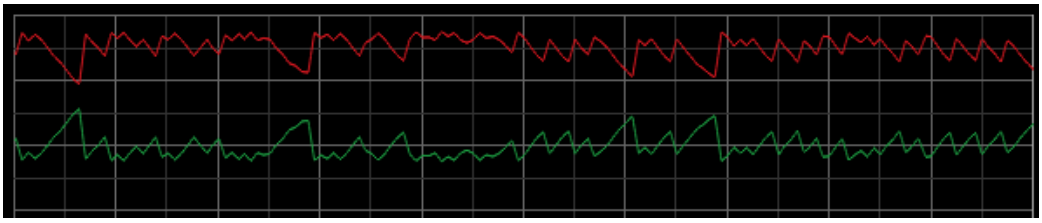
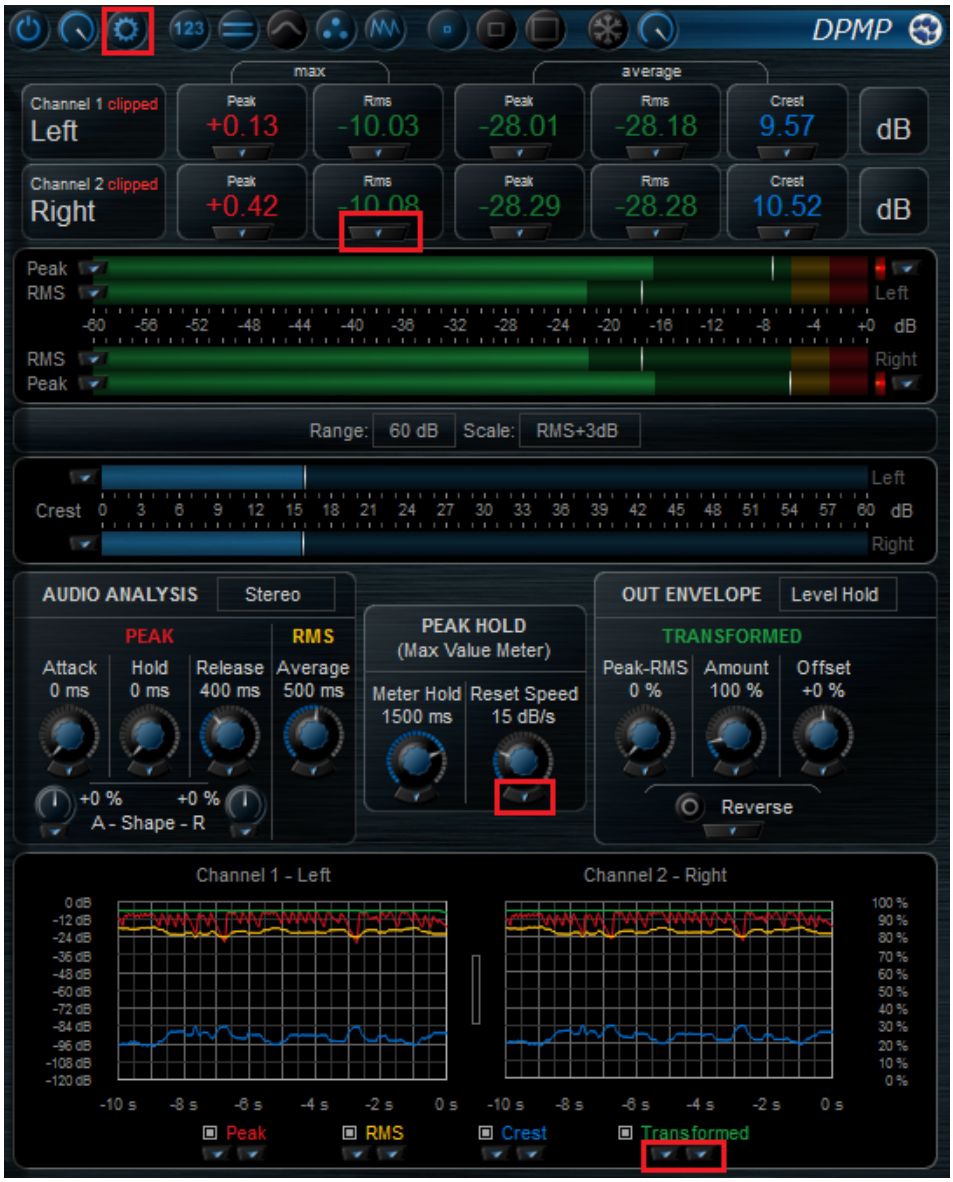


Peak envelope and its offset/ reversed counterpart.

Note: if you are used to the previous version of the plug- in, beware that the behavior of the revert button has been changed: it is now applied *after* amount and offset. It makes it easier to switch between reverted and non reverted envelopes without having to change offset and amount values.

MIDI and Automation Control

Most parameters of the plug- in can be controlled by MIDI or automation, and the plug- in is also able to transform most measurements into MIDI and automation. To simplify the setup and streamline the workflow, when the "Show Controls Settings" button is active, fast access to automation and MIDI settings is enabled for most useful parameters, as shown below:



More details about these settings are available later in this manual. Also, remember that you can open the presets settings pane for a summary of all automation and MIDI- enabled parameters.

If you want to change the default settings for all current and future instances of the plug- in, you can do it in the global settings window.

The various elements of the user interface (knobs, sliders, buttons...) are simple and intuitive to operate, but more information about how to interact with them is available in the "Plug- ins Basics" chapter of this manual.

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Operation

While using the plug- in to simply monitor audio levels is straightforward, other scenarios may require a bit more thoughts. Below are a few examples as well as tips and tricks to get the best out of your plug- in.

Levels Monitoring / Visualization

Make Choices

The plug- in offers a large amount of meaningful data. It can however become difficult to monitor everything at the same time, expecially with surround sources that multiply the number of parameters by the number of channels.

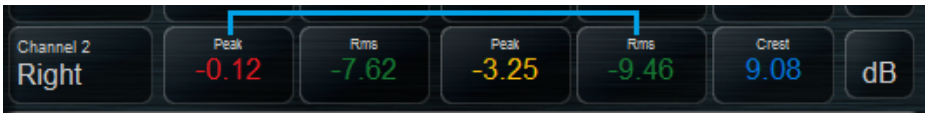
So once your meters are setup the way you like, it is wise to carefuly choose which parameters you are interested in and hide all other views that are not essential, so that you can focus on what is important to you.

Histograms: use reference tracks to make decisions

In order to get the best out of the histograms, you should take a look at their shape for reference tracks that you like (and which sound good to you). This way, you will be able to compare your tracks with these references and make decisions about your levels accordingly.

Song Crest Factor

Sometimes you may be interested in measuring the crest factor for an entire song (the overall peak to average ratio). Be aware that the average crest factor is **not** the value that you are looking for: it is the average of locally computed crest factors, which is different. The crest factor of the entire song (sometimes wrongly called dynamic range or DR) is simply the difference from the maximum peak value and the RMS average, provided that you have reset these values before playback.



So if your maximum peak is 0 dB, the crest factor will simply be the opposite of the average RMS value.

Offline Analysis

In order to display the statistics for an entire song, you can play the entire song into the meter while listening to it. But this will take some time. So if your host application allows it, you may want to use offline rendering and read the values after processing: you will be able to read the statistics for the whole song almost instantly.

Real time side chaining with MIDI

One of the particularities of this plug- in is that you can reuse the levels of a track to trigger effects on other tracks, using MIDI.

Setup

Setting up your DAW for such of applications depends on the way your host handles MIDI routing, but the principle remains the same on most platforms:

1. Instantiate the plug- in on the source track, setup its MIDI output.
2. Instantiate a destination plugin you want to control on another track, setup its MIDI inputs (or postpone setup for MIDI learn).
3. Create a separate MIDI track to carry the MIDI data and connect the the source and destination plug- ins.
4. At this stage, you can use MIDI learn to automatically connect the destination plug- in with the source plug- in.

Once everything is setup, the parameters of the destination plug- in are controlled by the audio level of the source track, or whatever other quantity you have chosen.

More information and detailed tutorials for several major host applications are available at this location. The list of tutorials is also available at the end of this manual.

Tweak Ranges

In addition to the "Amount" and "Offset" modifiers offered with the transformed envelope, you will probably want to adjust the range of the parameters being controlled. All our plug- ins give you this capability using the MIDI control settings. It makes source to destination mapping much easier since you can set the boundaries of the side chain control.

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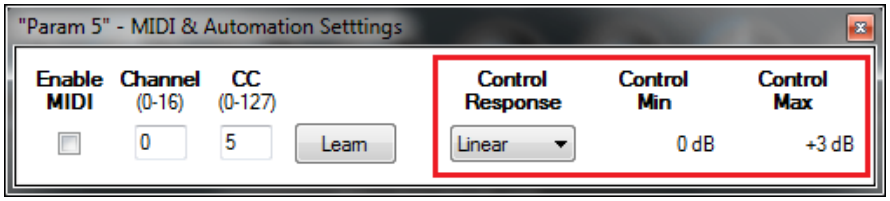

Using smaller ranges and tweaking response curves is also a way to improve precision: remember that MIDI CCs can handle only 128 values.

Examples

Possibilities and applications are endless, but here are a few basic examples to get started:

- **Ducking:** using a reversed peak envelope as the source and gain as a destination, you can quickly perform ducking of a track by another (a typical application is automated voice over). "Attack", "Release" and "Hold" will let you control ducking speed, while "Amount" is, well, the amount of ducking.
- **Loudness ducking:** the same as the previous example, using RMS envelopes instead of peak.
- **Volume controlled effect:** using a peak envelope as the source, and a "dry/ wet" or "mix" parameter as a destination, an effect can be controlled by the volume of a track. In real time and with a microphone, you can control the amount of effect applied simply with your voice: no need to shout at the sound engineer anymore, just shout at the DAW!
- **More advanced techniques**: what about controlling the ratio of a compressor or an expander with the crest factor, in order to increase or decrease the dynamics? Or the frequency of a lowpass filter with the RMS envelope? Feel free to experiment: you can improve your workflow and automate many tasks.

If your DAW and equipment supports it, it is possible to use the same principle to control external hardware as well.

Automation Output

Similarly, it is possible in most DAWs to record output parameters as automation curves. There are a couple of reasons why you would want to do that:

Monitoring

While real time monitoring is important, it can be handy to visualize levels on top of a waveform, to detect exactly the location where problems arise (clipping, level drops...). Recording this information as automation curves exactly provides this capability, as most host applications will display automation curves close to the original waveform:

In the simple example above, automation curves show exactly where clipping occurs, whereas it is not obvious on the waveform: clipping is actually due to the EQ plug- in in the first insert in this case! Using this technique, you can easily and quickly locate the origin of problem, even in large projects using complex routings and effect chains.

Offline Side Chain

Just like with MIDI Side chaining, you can perform similar tasks "offline": simply re- assign generated automation envelopes to other parameters. It can be useful if you want to tweak generated envelopes to exactly match your needs.

For example, you can start with real time side chaining using MIDI for a rough approximation, and then switch to automation envelopes that you can tweak offline with more precision.

Setup

To setup automation recording:

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1. Enable automation for the parameters you are interested in within the plug- in (with the control setting dialog or the preset settings pane) .
2. Some hosts will require you to also arm parameters for automation individually.
3. Start playback: the parameters will be recorded as automation envelopes.

More information and detailed tutorials for several major host applications are available at this location.

This manual covers only basic scenarios, but we hope that it will give you the idea and help you improve your audio production workflow.

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Blue Cat Audio Plug- ins Basics

This chapter describes the basic features that are common to all our plug- ins. If you are already familiar with our products, you can skip this part.

User Interface Basics

About Skins

Like all Blue Cat Audio plug- ins, Blue Cat's DP Meter Pro uses a skinnable user interface. It means that the appearance and behavior of the user interface can be entirely customized.

Especially with third party skins, the experience may be quite different from the one offered by the default skins that we provide. However, our plug- ins and our skinning engine have several standard features that will be available whatever your favorite skin.

More information about custom skins can be found in the skins section.

The Main Toolbar

In most skins, an optional toolbar at the top of the user interface gives you access to the main options and settings of the plug- in:

Presets Area

At the center of the toolbar, you can see the current preset area (the "Default Settings" box). It displays the name of the current preset, with a "*" at the end if it has been modified since loaded.

The arrows on the left and right let you navigate thru the (factory and user) presets available for the plug- in.

Clicking on the preset name opens the presets menu which lets you manage the presets of the plug- in.

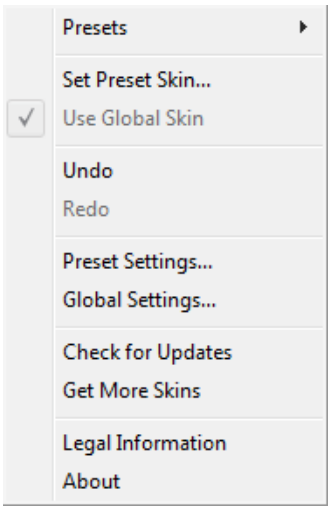
Commands

The icons in the toolbar give you access the to the following commands that are detailed in the next paragraph:

Icon	Name	Function
	Menu	Open the main menu
	Undo	Undo
	Redo	Redo
	Manual	User Manual
	About	About

The Main Menu

The main menu is available from the main toolbar, or if you right click anywhere on the background of the plug- in:



- **Presets**: opens the presets menu to manage presets.
- **Set Preset Skin**: change the skin for the current preset.

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- **Use Global Skin:** use the skin defined in the global settings for the current preset. This item is enabled only if a skin has been defined for the current preset.
- **Undo/ Redo:** undo or redo the latest modifications. This includes all changes made to the current preset settings such as MIDI or automation preferences.
- **Presets Settings:** open the presets settings window. It lets you change the skin, MIDI and automation settings for the current preset.
- **Global Settings:** open the global settingswindow. It lets you change the skin, MIDI and automation settings that are used by default in all instances of the plug- in (if not overriden by the current preset).
- **User Manual:** open this user manual.
- **Check for Updates:** opens up our website to let you check if any update for this software is available.
- **Get More Skins:** get more skins for this software.
- **Legal Information**: browse licensing and misc legal documents.
- **About:** displays the “about” dialog box.

The Title Bar

In most skins, an icon bar is located below the main toolbar. The first commands are the same for all plug- ins:

From left to right:

- **Smooth Bypass:** smoothly bypass the plug- in (just like a power button).
- **Window Opacity:** reduce the opacity value by turning the knob, and make the the plug- in window transparent. (the result may depend on the host application).
- **Show/ Hide MIDI and Automation Control Settings:** show/ hide the buttons that give access to direct MIDI/ Automation setup for each parameter in the user interface. This button will show or hide dropdown menu buttons that popup a MIDI/ Automation setup menu described here.

Controls

Examples

Here are a few examples of typical controls you will encounter in the user interface of our plug- ins:

slider	slider	knob	button	Text control

Interacting with Controls

You can interact with the controls of the plug- in interface either with the mouse or the keyboard.

Setting the keyboard focus on a control (so that it responds to key strokes) may be automatic (when you pass the mouse over it it gets focus) or manual (you have to click on the control to set the focus on it). Note that all host applications behave differently regarding keyboard handling. In some applications you may not be able to use all keys described later in this manual to interact with our plug- ins. It is usually made obvious to you to know the active surfaces of the skin (the places where you can click with the mouse): the mouse cursor usually changes when you can do something on a control. In the default skins delivered with the plug- in, the cursor changes to a small hand or an arrow to tell you when your mouse is over an active control.

Mouse

Various mouse movements will let you interact with the controls:

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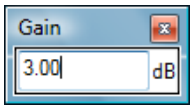
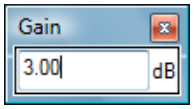
Mouse Interaction	Action
Left Click	Acquire focus and start dragging or push (button)
Left Click + Alt Key	Set the value to default
Left Double Click	Acquire focus and launch the “fine tuning” edit box (except button): 
Right Click	Set the value to default
Mouse Wheel	Increment or decrement the position (focus required)
Mouse Drag	Change the control position depending on mouse movement (except button)

Keyboard

All control widgets support the following keys (note that some of them are caught by the host and thus never forwarded to the control. For example in Steinberg Cubase SX you cannot use the arrow keys to control the plug- in):

Keys Common to All Controls

Key	Action
Up Arrow	Small increment of the position (up or right)
Down Arrow	Small increment of the position (down or left)
Left Arrow	Same as Down Arrow
Right Arrow	Same as Up Arrow
Page Up	Large increment of the position (up or right)
Page Down	Large decrement of the position (down or left)
+	Small increment of the value of the control
-	Small decrement of the value of the control
d	Set to default value (same as mouse right click)
e	Opens the 'fine tuning' window to precisely set the parameter: 
SHIFT	When the key is down, the fine tuning mode is on, and you can modify the value with better precision when moving the mouse, the mouse wheel or using the keyboard. Just release the key to get back to the normal mode.

Keys Specific to Buttons

Key	Action
Enter	Pushes the button

Presets

To get started with the plug- in and discover its capabilities, a couple of factory presets are provided. You can also save your own presets and recall them later for other projects. Our plug- ins propose a full- featured preset manager to let you save, browse, organize and recall its presets.

The Presets Menu

The presets menu can be opened from the main menu or the main toolbar. It displays the list of presets available for the plug- in as well as commands to load, save or organize presets:

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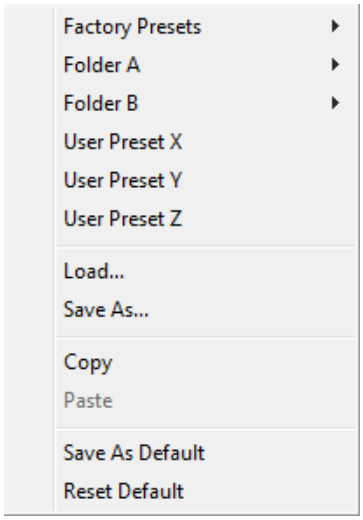
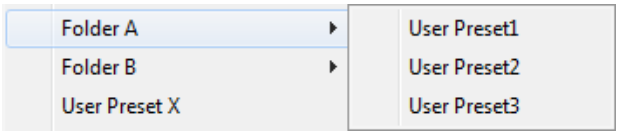


- **Factory Presets:** shows the list of factory presets delivered with the plug- in.
- **"Folder A" to "User Preset Z":** user presets and categories.
- **Load:** load preset from file.
- **Save As:** save current preset to a file.
- **Copy** copy preset to the system clipboard.
- **Paste** paste preset from the system clipboard, if available.
- **Save As Default:** save the current state as the default preset. This preset is used every time a new instance of the plug- in is created.
- **Reset Default:** reset the default preset to its factory state: this makes the plug- in forgets the custom settings you might have saved as a default preset.

More about Presets

There are two types of presets: factory presets (read only) that are provided with the plug- in, and user presets that can be created and stored by the user.

The user presets are stored in a subdirectory of the documents folders of your profile ("Documents" on Mac, and "My Documents" on Windows): Blue Cat Audio/ [Plug- in Name]/ Presets. Each preset is stored as an individual file. You can create folders and subfolders in the Presets directory to classify your presets, as shown in the example below:



If you save a preset named "Default" in the root Presets directory, it will override the factory default preset (that's what "Save As Default" does). To restore the factory default preset, you can just remove this file or use the "Reset Default" command.

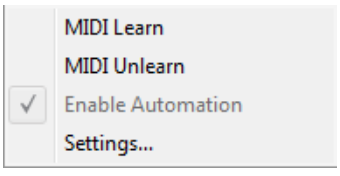
MIDI and Automation Control

Blue Cat's DP Meter Pro can also be remotely controlled via MIDI using MIDI CC ("Control Change") messages or automation curves, if your host application supports it. It is possible to customize the channel, control numbers, range and response curve used for each parameter in the settings panel available from the main menu (see the Plug- in Settings chapter for more details).

MIDI and Automation Settings Menu

Most skins also provide the ability to change MIDI and automation settings for each parameter directly in the main user interface. When this feature is activated using the corresponding title bar button, dropdown menu buttons appears next to main controls:

Clicking on this button shows the MIDI/ Automation settings menu:



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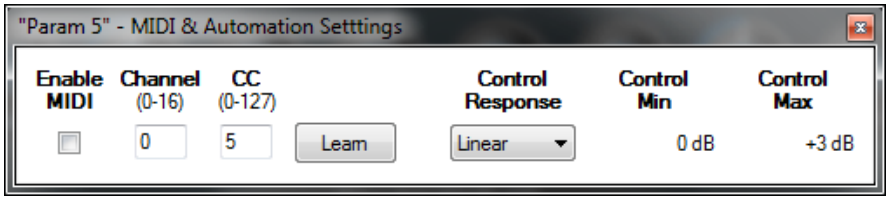
- **MIDI Learn:** launches MIDI learn mode for the control: touch your MIDI controller and the control will learn from it the MIDI channel and CC number. To end the learn mode, reopen this menu and deselect the option.
- **MIDI Unlearn:** deactivates MIDI control for this parameter.
- **Settings:** launches the advanced settings panel described below. This controls the settings for the current preset.

Andvanced MIDI and Automation Settings

You can completely customize the way the plug- in is controlled by automation and MIDI. For a global view of all parameters at a time, you can use the Plug- in Settings window for the current preset which is available from the main menu.



MIDI Settings:

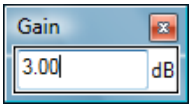
- **Enable MIDI**: enable/ disable the MIDI control of the parameter.
- **Channel**: MIDI Channel for the parameter control. If set to 0, the plug- ins will accept Control Change Messages from all MIDI Channels (MIDI Omni mode).
- **CC**: Control Change Number.
- **Learn**: click on this button to activate the MIDI learn functionality. When it is activated, you can move your MIDI controller, and the plug- in will automatically set the MIDI Channel and CC Number.

MIDI and automation settings:

- **Response**: response curve of the MIDI or automation control: from very fast to slow control.
- **Min**: minimal value of the parameter when MIDI controlled or automated.
- **Max**: Maximum value of the parameter when MIDI controlled or automated.

Note: if the Min value is higher than the Max value, the response curve will be reversed: increasing the control value will decrease the parameter value.

Note: if you double click on the parameter text control boxes for the max and min values, a “fine tuning” edit box will appear and let you change the min and max values with more precision:

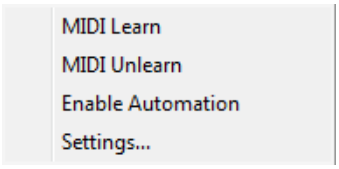


MIDI and Automation Output

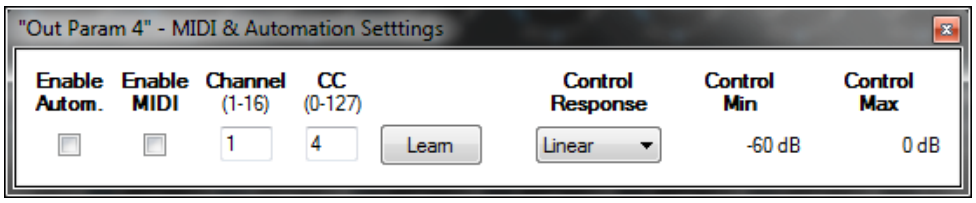
Blue Cat's DP Meter Pro can also generate MIDI CC Events or automation curves thanks to its output parameters.

You have access to the same settings for the output parameters as you have for input parameters using the dropdown menu, except that you can also enable or disable automation.

The output parameters MIDI and Automation Menu:



The advanced output parameters MIDI and Automation settings window:



More

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Check our online tutorial for more screenshots and more examples of our plug- ins user interfaces.

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Blue Cat's DP Meter Pro Parameters

All parameters described below can be automated and controlled via MIDI if your host application supports it. You can precisely define this behavior in the settings panels described later in this manual.

Input

The input parameters of this plug- in available for automation or MIDI control are shortly described below. For more details, please refer to the beginning of this manual.

Name	Unit	Description
Bypass		Bypass the plugin (stops analysis).
Stereo Mode		Chooses between Left/ Right (Stereo) and Mid/ Side modes (stereo version only).
Peak Meter		
Attack	ms	Attack time for the Peak Follower (see the graph below).
Hold	ms	Hold time for the Peak Follower (see the graph below).
Release	ms	Release time for the Peak Follower (see the graph below).
Attack Shape	%	Shape of the attack for the peak envelope follower: positive values will make attack time increase over time, whereas negative values will do the opposite, resulting in diffrent shapes.
Release Shape	%	Shape of the attack for the peak envelope follower: positive values will make release time increase over time, whereas negative values will do the opposite, resulting in diffrent shapes.
RMS Meter		
RMS Average	ms	RMS computation time, also used for crest factor computation.
RMS Boost		3dB offset for the RMS value. It allows the peak and RMS levels of a pure sine wave to be equal as recommened for audio applications.
Peak Hold Meter		
Meter Hold	ms	Time during which the local maximum value remains unchanged.
Reset Speed	dB/ s	Reset speed for the local maximum value (peak hold meter).
Transformed Output Envelope		
Enevlope Type	%	Selects the type of envelope to use to generate the transformed enevlope: level, level hold, crest or crest hold.

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Peak-RMS	%	Ratio of Peak/ RMS levels for the output envelope, for level or level hold enevlope types.
Reverse		Reverse the transformed output peak envelope.
Amount	%	Amount for the transformed output peak envelope: percentage of the original envelope used to generate the transformed envelope. If > 100% variations of the transformed envelope will be larger than for the original envelope, if <100% they will be smaller.
Offset	%	Offset for the transformed output envelope.
Histograms		
Enable Hist		Enable histograms computation.
Hist Length	seconds	Histograms integration time (duration).
Hist Reset		Value changes reset the histograms.
Reset		
Clip Reset		Value changes reset the clip output attribute.
Max Peak Reset		Value changes reset the maximum peak value.
Max RMS Reset		Value changes reset the maximum RMS value.
Max Crest Reset		Value changes reset the maximum crest factor value.
Avg Peak Reset		Value changes reset the average peak value.
Avg RMS Reset		Value changes reset the average RMS value.
Avg Crest Reset		Value changes reset the average crest factor value.

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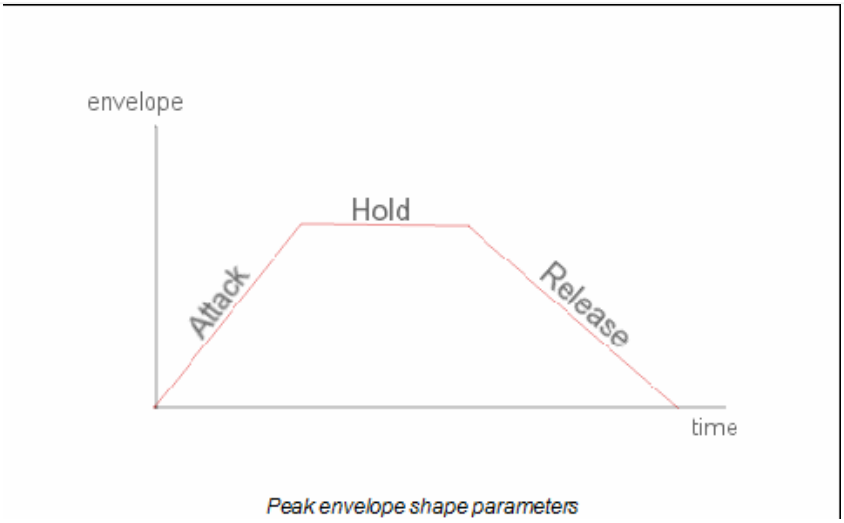
Reset All	Value changes reset all clip/ max/ average values.



Peak envelope shape parameters

Output

The plug- in provides output parameters that can be recorded as automation curves or sent as MIDI CC to other plugins for advanced monitoring and universal side chaining.

These (read only) parameters are shortly described below. On stereo and surround version, parameters are repeated for each channel:

Name	Unit	Description
Peak	dBFS	Peak level.
RMS	dBFS	RMS level.
Crest	dB	Crest Factor.
Transformed	%	Tranformed Envelope: the crest, peak and RMS levels combined according to selected envelope type, “peak- rms” percentage. Also transformed using the reverse, amount and offset parameters. Use this parameter for side chaining capabilities.
Max Peak	dBFS	Global maximum peak level (can be reset by “Max Peak Reset” parameter changes)
Max RMS	dBFS	Global maximum RMS level (can be reset by “Max RMS Reset” parameter changes)
Max Crest	dB	Global maximum crest factor (can be reset by “Max Crest Reset” parameter changes)
Avg Peak	dBFS	Global average peak level (can be reset by “Avg Peak Reset” parameter changes)
Avg RMS	dBFS	Global average RMS level (can be reset by “Avg RMS Reset” parameter changes)
Avg Crest	dB	Global average crest factor (can be reset by “Avg Crest Reset” parameter changes)
Peak Hold	dBFS	Local maximum Peak value. The behavior of this output is controlled by the 'Meter hold' and 'Reset Speed' parameters.
RMS Hold	dBFS	Local maximum RMS value. The behavior of this output is controlled by the 'Meter hold' and 'Reset Speed' parameters.

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Crest Hold	dB	Local maximum crest factor value. The behavior of this output is controlled by the 'Meter hold' and 'Reset Speed' parameters.
Clipped		This value set to 1 if the audio signal clips (meaning its peak level is above 0 dBFS). This information can be reset by changing the “Reset Clip” input parameter.

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Plug- in Settings

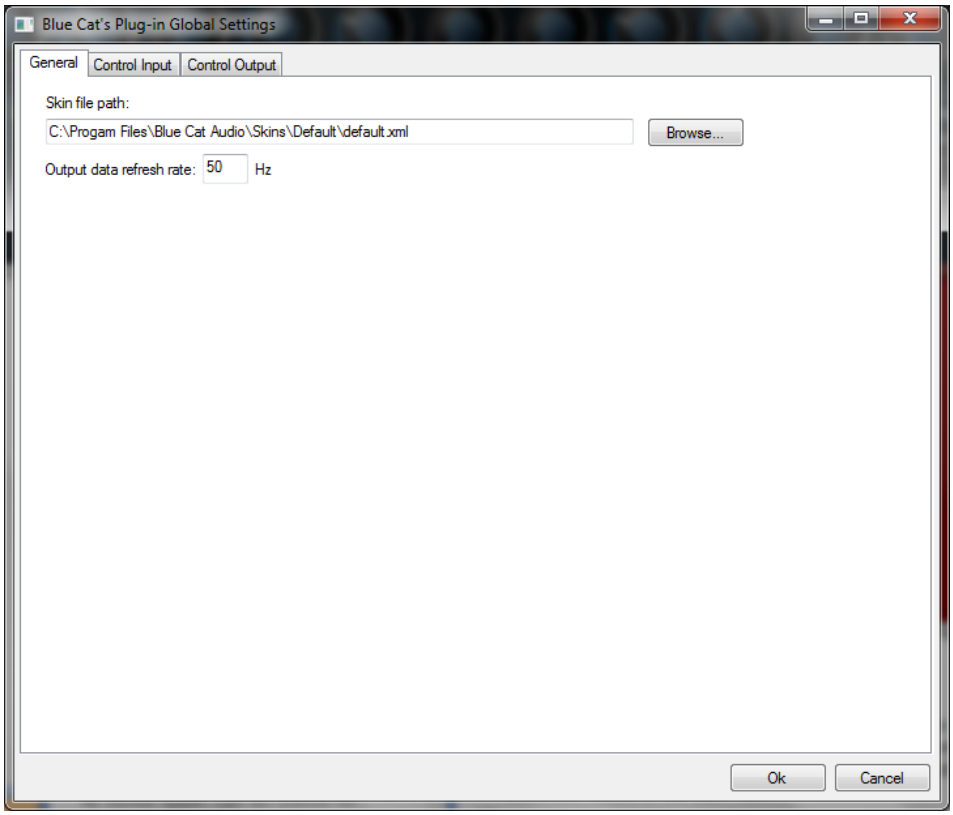
In addition to the controls offered in the main user interface, Blue Cat's DP Meter Pro has various settings that let you fine tune the behavior of the plug- in. You can choose to change these settings either for the current preset or globally for all instances of the plug- in.

The Global Settings Window

The settings available in this window ***apply to all instances of the plug- in, for all presets***, if not overriden in the presets settings. Consider these settings as “default” settings.

General

You can change the default skin for all instances of the plug- in: write the skin file path in the text edit box or click on the button to open a file chooser dialog. If you have several instances of the plug- in opened in your session, you will have to re- open the user interfaces of these plug- ins to see the skin change.



The output data refresh rate can also be customized for all instances of the plug- in. It controls the refresh rate of non- audio data produced by the plug- in (parameters, curves...). It also controls the refresh rate of output MIDI CC messages or output automation data. The higher the refresh rate, the better precision, but also the higher cpu usage (some host applications may also have trouble recording MIDI data at high refresh rates). The default value is 50 Hz.

Global Control Input Settings (MIDI and Automation)

The plug- in offers a couple of settings that affect the way it is controlled by MIDI messages or automation. While the first settings only apply to MIDI control, the "Control Response", "Min" and "Max" settings apply to ***both automation and MIDI control***.

For each parameter you can define a default MIDI channel and CC number. You can then control the plug- in with an external MIDI controller or one of our plug- ins that generate MIDI messages.

The settings below are available for each plug- in parameter.

MIDI Settings:

- **Enable MIDI**: enable/ disable the MIDI control of the parameter.
- **Channel**: MIDI Channel for the parameter control. If set to 0, the plug- ins will accept Control Change Messages from all MIDI Channels (MIDI Omni mode).
- **CC**: Control Change Number.

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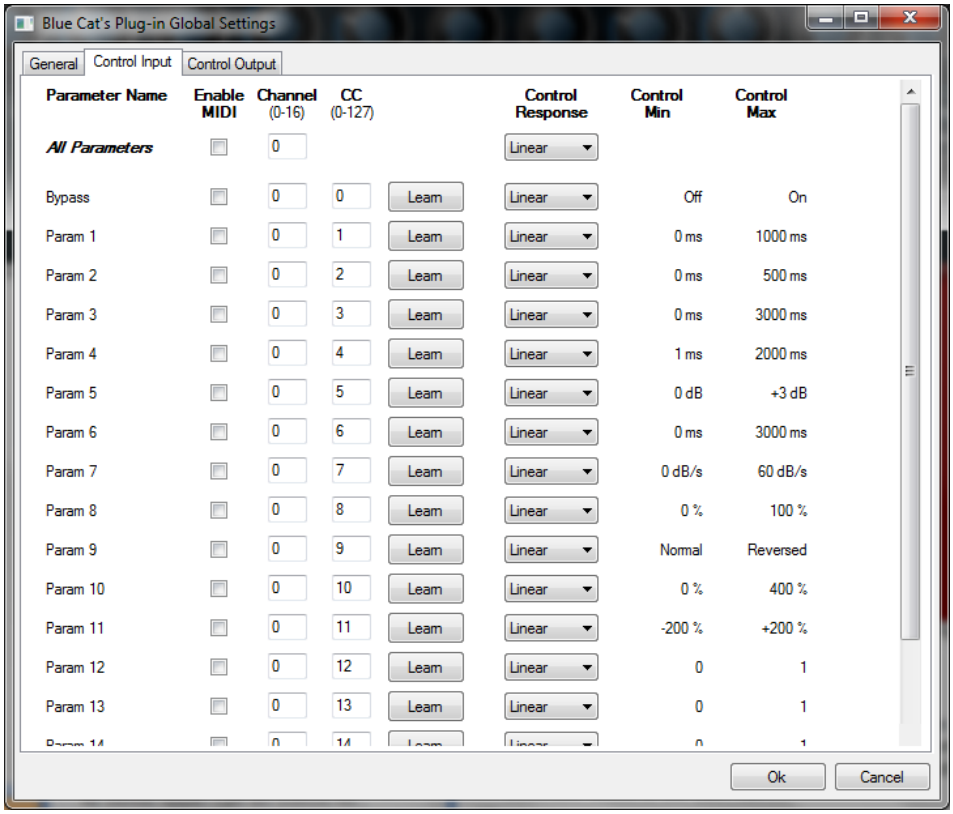
- **Learn**: click on this button to activate the MIDI learn functionality. When it is activated, you can move your MIDI controller, and the plug- in will automatically set the MIDI Channel and CC Number.

MIDI and automation settings:

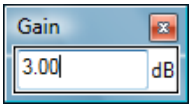
- **Response**: response curve of the MIDI or automation control: from very fast to slow control.
- **Min**: minimal value of the parameter when MIDI controlled or automated.
- **Max**: Maximum value of the parameter when MIDI controlled or automated.



(generic screen shot, does not correspond to the actual plug- in parameters)

Note: if the Min value is higher than the Max value, the response curve will be reversed: increasing the control value will decrease the parameter value.

Note: if you double click on the parameter text control boxes for the max and min values, a “fine tuning” edit box will appear and let you change the min and max values with more precision:



Global Control Output Settings (MIDI and Automation)

You can set the same properties for the output parameters as for the input parameters: in this case, they may trigger MIDI CC messages or generate automation curves when modified. Since it's output, you cannot set the channel to MIDI Omni, so you must choose a channel.

Output parameters can also generate automation curves in most host applications. You can enable automation for any output parameters you are interested in (see the "Enable Autom." checkbox).

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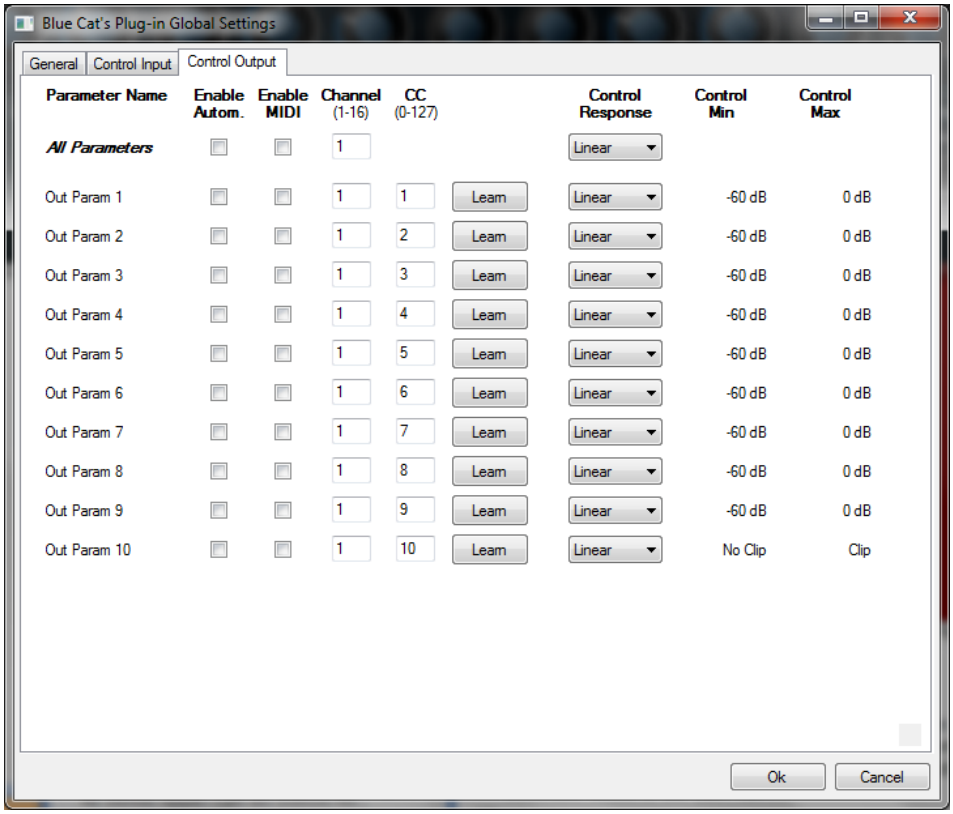
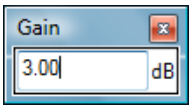


(generic screen shot, does not correspond to the actual plug- in parameters)

Note: if the Min value is higher than the Max value, the response curve will be reversed: increasing the control value will decrease the parameter value.

Note: if you double click on the parameter text control boxes for the max and min values, a “fine tuning” edit box will appear and let you change the min and max values with more precision:



The Current Preset Settings Window

In this window you can change the settings ***for the current preset of the current instance of the plug- in only***.

Preset Skin

You can choose to use the global skin setting or to change the skin for the current preset. This way you can have different skins for different instances of the plug- in in the same session in order to differentiate them.

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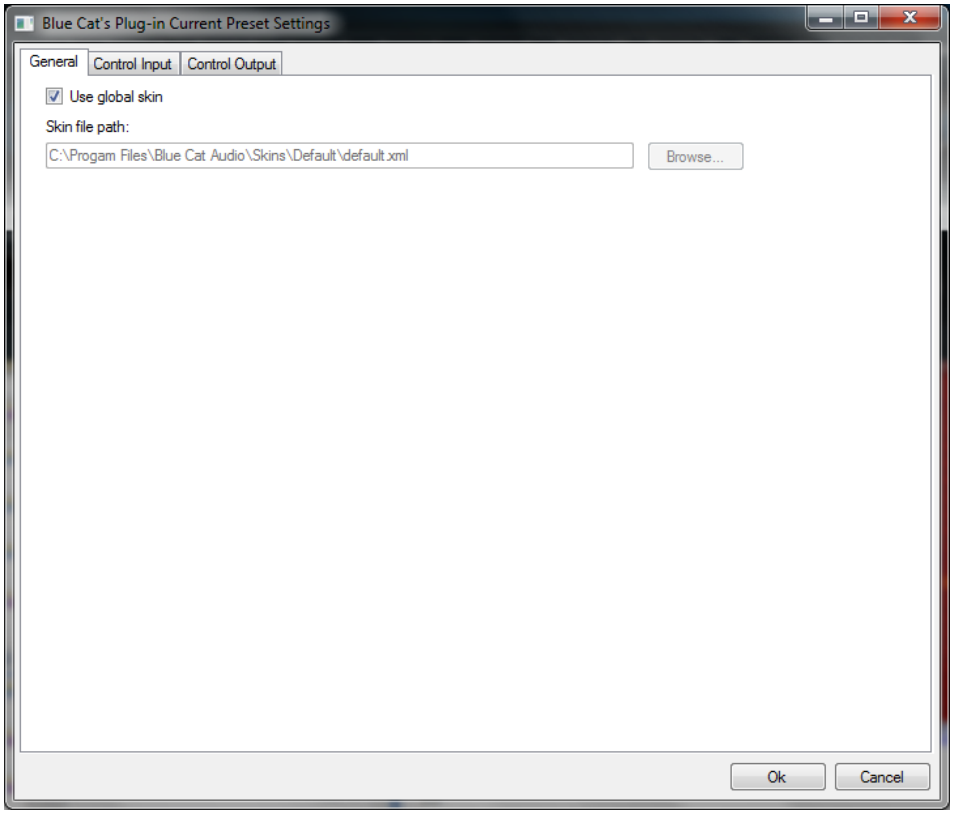
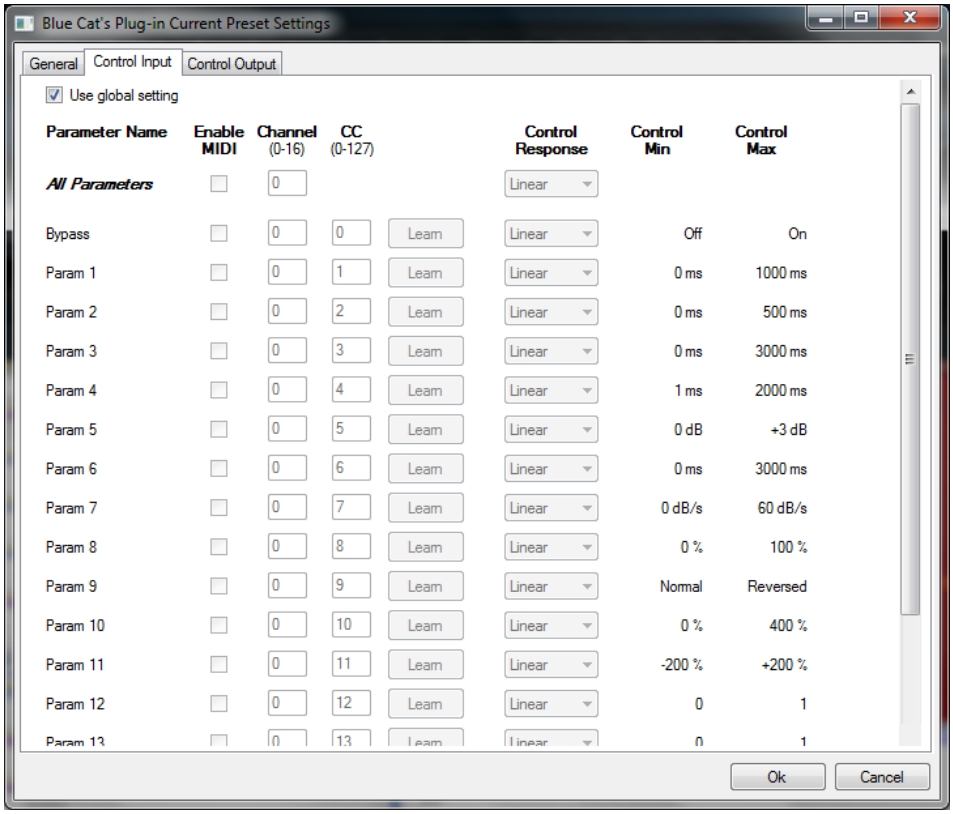


Preset Control Input Settings (MIDI and Automation)

Use the global settings or override them for the current preset. The parameters are the same as for the global input settings.



(generic screen shot, does not correspond to the actual plug- in parameters)

Preset Control Output Settings (MIDI and Automation)

Use the global settings or override them for the current preset. The parameters are the same as for the global output settings.

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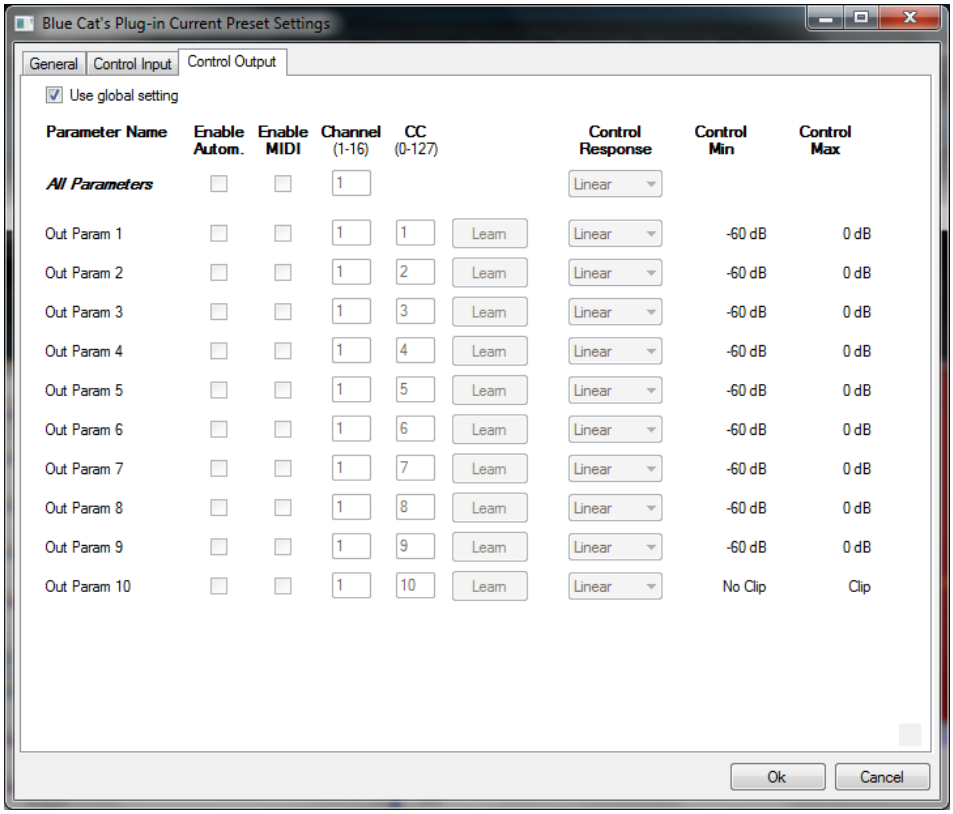

(generic screen shot, does not correspond to the actual plug- in parameters)

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About Skins

Blue Cat's DP Meter Pro integrates Blue Cat's skinning engine that allows you to customize the user interface. You can download new skins for your plug- in at the following address:

http:// www.bluecataudio.com/ Skins/ Product_DPeakMeterPro

If you don't find a skin that fits your need or if you want a really custom one, you can choose to create your own skin.

Changing the Skin

You have two ways to change the skin of your plug- in: you can change the default (or 'global') skin in the global settings, or change the skin for the current preset only (either in the preset settings page or from the main menu). The global skin applies to all plug- in instances, whereas the current preset skin only applies to the current preset of the current plug- in instance.

See the main menu for more information about how to access these options.

On some hosts the plug- in window won't resize automatically when you choose a skin with a different size. In this case, just close the window and re- open it: it will be displayed with the right size.

Create a Custom Skin

You can create custom skins for your plug- in in order to adapt it to your exact needs. You can change its look and feel and make it completely integrated in your virtual studio!

Just read the Blue Cat's Skinning Language manual and download the samples for the tutorial on http:// www.bluecataudio.com/ Skins. You can get ready to create your own skins in a few minutes.

You can then share your skins on our website.

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Automation Output

When I use the plug- in, my host application is slowed down and I get audio drop- outs. How can I solve this problem?

If your host application does not let you select the parameters for which you want to record automation, it might be doing some extra work for handling the output parameters generated by the plug- in. A solution is to disable the output parameters you do not use in the Preset or Global settings/ Automation Output pane.

When I use the plug- in, my host application draws many automation curves on the current track and yet I have not touched any control on the plug- in. How can I avoid that?

If your host application does not let you select the parameters for which you want to record automation, it will record automation for all the output parameters generated by the plug- in. You can disable the output parameters you do not use in the Preset or Global settings/ Automation Output pane.

I am trying to record automation curves as shown in the tutorials but it does not work. What do I have to do?

If your host application lets you select the parameters for which you want to record automation, check that the parameters you want to record are enabled. You also need to check that the plug- in automation output is enabled for these parameters. Check the Preset or Global settings/ Automation Output pane and select the parameters you want to record.

When I use the plug- in in a project, every time I save the project, my application shows it as unsaved right away. How can I solve this issue?

This plug- in produces automation output, and some host applications consider that any change to one of the output parameters is a change for the project. In order to solve this problem, and if you do not use the automation output capability of this plug- in, you can disable automation output from the plug- in settings panel (Global or Preset Settings/ Automation Output pane: uncheck all parameters).

MIDI Output

How can I enable the MIDI output of the plug- in?

If your host application supports it, you can choose to send MIDI CC messages based on the output parameters computed by the plug- in. The feature is not enabled by default, so you need to go to the current preset settings (of the global settings if you want to enable this for all instances - not recommended) and open the "MIDI output" pane. For each parameter you are interested in, enable MIDI output and select the appropriate channel and CC number. The plug- in will then send MIDI messages to the host application. Check our tutorials for a detailed explanation of MIDI output routing in your favorite host.

Plug- ins Formats

What are DirectX (DX), Audio Unit (AU), RTAS, AAX and VST plug- ins?

VST, Audio Unit, RTAS, AAX and DirectX plug- ins are software components than can be used in "Host" Software (such as Cakewalk Sonar, Steinberg Cubase or Wavelab, Sony Vegas, Logic Pro, Garage Band, Ableton Live, Pro Tools...) in order to perform some MIDI and/ Or Audio real- time Processing tasks. To be more precise what we usually call directX plug- ins is actually a "DirectShow Filter". VST is owned by Steinberg, DirectX by Microsoft while Audio Units is the property of Apple Computers and RTAS and AAX are owned by AVID.

How can I use your plug- ins?

Download and install a host software, then download and install the plug- ins from our page. They will appear in the host "effects" menu. If you are using a DirectX host with our MIDI controllable plug- ins and they do not show up in you host list, you might need to use our freeware DXi Manager. Note that our plug- ins are sometimes shown in the "MIDI controllable audio effects" or "soft synths" sections in some host applications.

Where can I find a host?

There are many commercial or freeware hosts that will suit your needs. You can find a long list of applications here. You can also use demos of Cubase, Wavelab, Ableton Live, Tracktion, or Sonar software, which are usually available on the companies websites. On the Mac, Garage Band is part of the system and can be also used to host our Audio Unit plug- ins.

What are the main differences between DX, VST, RTAS, AAX and Audio Units?

VST is a protocol that works on several platforms (Mainly Windows, MacOS, BeOS, and some Linux platforms use it as well) whereas DirectX is Microsoft Windows only, and Audio Units are available only on the Mac. RTAS and AAX are available on Mac

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and PC, but only for Pro Tools products (AVID). AAX plug- ins are compatible with Pro Tools 10 and higher, whereas RTAS versions are compatible for Pro Tools 10 and lower versions.

What is the difference between DXi and DX effects?

DXi effects are MIDI controllable DirectX plug- ins. It's the same as DX effects plus MIDI control.

Which version (VST, Audio Unit, RTAS or DX) should I use in my host application?

Here is a list of host software and the version we recommend you to use. Many other applications are supported, check your application user manual to choose the best version (AU stands for "Audio Unit" and DX for "DirectX"):

Host Application	Plug- in Version
Cakewalk Products (Sonar, Project5...)	DX
Sony Products (Vegas, ACID, Soundforge)	DX for old versions, VST for new
Steinberg Products (Cubase, Nuendo, Wavelab)	VST (Mac or PC)
Ableton Live	VST (Mac or PC)
Adobe Audition	any
EnergyXT	VST
Magix Samplitude	VST
Avid (Digidesign) Pro Tools	RTAS
Apple applications (Logic Pro, Logic Express, Garage Band...)	AU
Cockos Reaper	VST (Mac or PC)
...	

In general, we recommend using VST over Audio Unit on Mac (when both are supported), particularly for the plug- ins that can output automation or MIDI CC messages.

Where can I find more information about this topic?

- www.steinberg.net
- www.microsoft.com
- www.kvraudio.com
- www.apple.com
- www.digidesign.com

Installation

I have installed my software and it is not listed as an application. Why? What can I do? How can I launch it?

Most software you can purchase on this website is plug- ins for host applications. It means you need another application to use it. See the "Plug- ins Formats" section in this FAQ for more information.

I have installed my plug- in and it does not show up in my host application. What can I do?

First check that you application supports DirectX, Audio Unit or VST plug- ins.

If you are using the DirectX version, check that your host application supports DXi plug- ins (MIDI enabled DirectX plug- ins). If it does not, it may remove it from the DirectX plug- ins list (some applications such as Sony Vegas 5 and Cool Edit Pro are known to do this). In this case, use our DXi Manager free utility and disable the MIDI capabilities of the plug- in. You may need to reinstall the software again before it shows up into your host application. For more information about this topic please read our DXi in Sony Vegas tutorial (it is applicable to other applications than Sony Vegas).

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If you are using the Direct X version and your host application supports DXi, check that the plug- in does not appear in the 'virtual synth' or 'synthesizers' category. If you wish not to use the MIDI capabilities of the plug- in and use it as a regular Direct X plug- in, you can download the freeware DXi Manager and disable the MIDI capabilities of the plug- in.

I have installed my plug- in on windows 64- bit, checked the items above, and it still does not show up in my host application. What can I do?

You are probably running a 32- bit application. If that's the case, you need to install the 32- bit version of the plug- in: the choice for 32 or 64- bit is not determined by the operating system (64- bit windows can run both 32 and 64- bit applications), but by the host application that you are using.

Why are there two plug- ins called xxxx(Mono) and xxxx(Stereo) installed ?

"Mono effects" (which are effects that do not make any difference between left and right channels) are bundled this way for performance reasons. Some developers just deliver a stereo Version which also processes (twice) mono streams. The "(Mono)" plug- in is to be used with mono streams, and the (Stereo) one with stereo streams. The effect itself is the same in both cases but the number of processed channels is different: this may drastically improve performance for CPU intensive plug- ins.

How do I uninstall my plug- ins?

Open the Windows configuration panel/ Add Remove Programs, and choose 'Remove' on the corresponding plug- in. If you have installed the VST plug- in zip file version, just delete the corresponding dlls.

Why do your plug- ins need an installer on Windows? Do they modify the registry or system settings? Why not providing just a dll?

Our plug- ins require several additional files for default settings, skins and miscellaneous data. We provide an installer for our customers' convenience. Our installers do not modify the system settings or the Windows registry, except for the DirectX versions registration. Our installers won't harm your system.

Software Version

How do I know the version of the plug- in I am using?

You can see the version information in the about box: right click on the background of the plug- in user interface and select "About". The product version is also available in the Windows Add/ Remove Programs Window.

Why do newer versions of a plug- in override older ones (they have exact same name and IDs)?

Because newer versions improve previous ones. When a new version is released, older versions are not supported anymore. In some cases the new versions may be installed as new products (compatibility reasons, major changes...), but it is explicitly documented on the product page.

A new minor version of a product I purchased some time ago is available. Where can I download the update?

The new version can be downloaded from the same place where you downloaded the original version. All information is contained in the email you received when you purchased the product. Your registration number has not changed either.

Upgrade

A new minor version of my plug- in has been released. Where can I download it?

When you purchased the plug- in, an email containing the information to download and register your software has been sent to you. You can download the new version from the exact same location as the first time.

I have downloaded a new version, do I need to uninstall the previous version?

No, you don't, except if it's specified on the product page, in the "history" section. Just run the installer and it will upgrade your software.

Automation

What is "Parameters Automation"?

The parameters of an effect can be automated in most host software. It means that you can record the changes you do during playback or recording so that it's replayed when playing back again. It's a way of sequencing parameters changes the same way you do with Audio or MIDI data.

What is "Smooth Update"?

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When changing parameter values in real time or replaying a song where parameters have been automated, our plug- ins compute intermediate values between parameter changes in order to avoid "clicks" and "pops" that may occur otherwise. It results in a non audible smooth parameters update and lets you freely use automation or MIDI control to change the effects in a song.

Do your plug- ins support MIDI Control?

Yes they do. They offer precise control over the mapping of MIDI Control Change (CC) messages to parameter values: you can adjust both the channel and CC number as well as the response curve of the control. Since some of our plug- ins are also capable of creating MIDI CC from the audio signal, they can all be connected for real time signal- dependent audio effects. See our MIDI Control in Sonar tutorial for an example.

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More...

This manual only covers the basics of Blue Cat's DP Meter Pro. Our website offers many additional resources for your Blue Cat's DP Meter Pro plug- in and is constantly updated, so keep an eye on it! You will find below a few examples of available resources.

Extra Skins

We encourage our customers to propose their own skins for our products and we often propose alternative skins to let you choose the one that best suits your needs. You can check Blue Cat's DP Meter Pro skins page to get the latest skins.

Big Meters (v3)

Product: DP Meter Pro
Description: Original skin set (4 skins) modified to support very large meters.
Author: Blue Cat Audio
Download: Skin_BigMeters.zip

Loudness Meter (v3)

Product: DP Meter Pro
Description: This package proposes several skins for loudness or peak measurement. The giant meters are large enough to be seen from far away! There is a PDF file in the main directory which contains both a chart for reference and screenshots of pretty much all the different possible looks you can get with this skin package.
Author: Ngarjuna
Download: Skin_NgarjunaLoudness.zip

Precise Gauge (v3)

Product: DP Meter Pro
Description: A complete skin set (3 skins), including large and precise meters, dynamics metering, target volume display...
Author: Hayate- Yagami
Download: Skin_PreciseGauge.zip

Red Box (v3)

Product: DP Meter Pro
Description: Red Box look for v3, including 4 skins for both the stereo and mono plugins.
Author: Blue Cat Audio
Download: Skin_RedBox3.zip

Tutorials

Many Tutorials are available on our website. They cover a wide range of topics and host applications. You will find below a list of tutorials that are related to the Blue Cat's DP Meter Pro plug- in. An updated list is also available online.

Tutorial - Automation Envelopes Generation in MOTU's Digital Performer 7

This tutorial shows how to reuse the envelopes generated by our plugins with output parameters in MOTU's Digital Performer 7 host software. As of today Digital Performer does not receive MIDI events f...

[Read More...]

Tutorial - Customize the Colors of your Plugins

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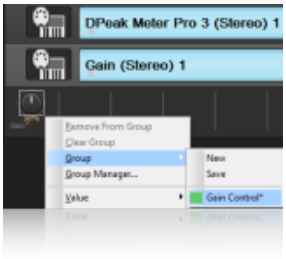
This tutorial shows how to customize the FreqAnalyst Pro plugin's user interface by changing the color of the displayed curves. It is a very basic skinning tutorial. All you need to know is how to exp...

[Read More...]

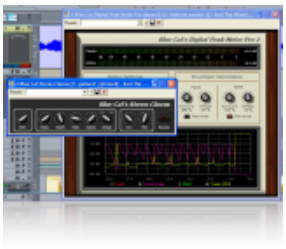
Tutorial - Connecting Plug- ins with Groups in Cakewalk Sonar



This tutorial shows how to reuse the envelopes generated by our plugins with output parameters in Cakewalk Sonar using groups. Other techniques exist (using MIDI or Automation curves), but this one ha...

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro In Sonar



This tutorial shows how to use the DP Meter Pro plugin (DPMP) in Cakewalk Sonar, in order to modify the parameters of an effect on a track according to the envelope of an other track....

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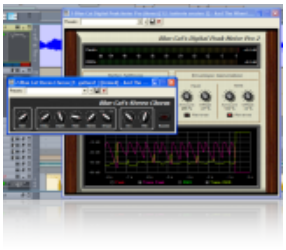
Tutorial - Blue Cat's Digital Peak Meter Pro In Sonar (Live)



In this tutorial you will learn how to use the DP Meter Pro plugin (DPMP)'s real time capabilities in Cakewalk Sonar: use it to let any instrument influence the parameters on any effect for any other ...

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro In Ableton Live

In this tutorial you will learn how to use the DP Meter Pro plugin (DPMP)'s real time capabilities in Ableton Live: use it to let any instrument influence the parameters of any effect for any other in...

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro In Cubase (Live)

In this tutorial you will learn how to use the DP Meter Pro plugin (DPMP)'s real time capabilities in Steinberg Cubase: use it to let any instrument influence the parameters on any effect for any othe...

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Tutorial - Real Time Ducking: the DPMP as a Voice Over Tool.

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This tutorial shows how to perform real time ducking in your favorite host, using the DP Meter Pro plugin (DPMP). The following example is a typical "Voice Over" situation where you want to add a vo...

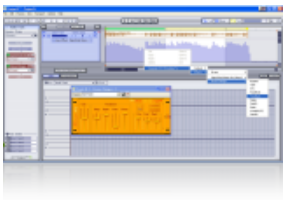
[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro in Energy XT

This tutorial shows how to use the DP Meter Pro plugin (DPMP) in energyXT, in order to modify the parameters of an instrument or effect on a track according to the envelope of an other track. ...

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro in Cakewalk Project5



This tutorial will teach you how to use the DP Meter Pro envelope generator in Cakewalk Project 5. Download the tutorial as a pdf file ...

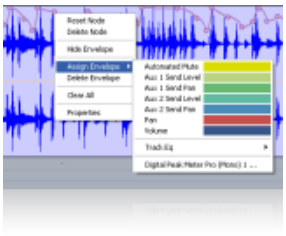
[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro In Samplitude

This tutorial shows how to use the DP Meter Pro audio analysis plugin (DPMP) in MAGIX Samplitude, in order to modify the parameters of an effect on a track according to the envelope of an other track....

[Read More...]

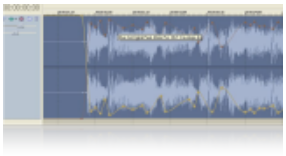
Tutorial - Blue Cat's Digital Peak Meter Pro & Automation In Sonar



This tutorial shows how to use the DP Meter Pro plugin (DPMP) in Cakewalk Sonar, in order to record the peak envelope of the audio signal as an automation curve....

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro in Sony Vegas



This tutorial will teach you how to use the DP Meter Pro envelope generator in Sony Vegas. You will be able to reuse the envelope for audio or video effects. Download the tutorial as a pdf fi...

[Read More...]

Tutorial - Using DXi plug- ins in Sony Vegas

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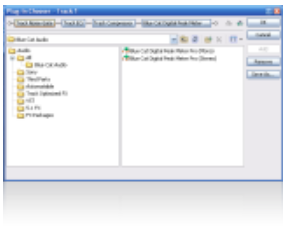
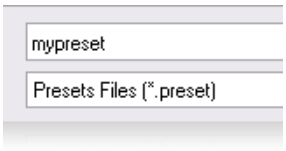


This tutorial will teach you how to use any DXi plug- in in Sony Vegas: Sony Vegas does not support MIDI automation, so if your plug- in supports the MIDI Dxi protocol, it is removed from the plug- ins l...

[Read More...]

Tutorial - Export Plugin Presets to Share them with the Community



This tutorial shows you how to export your presets in order to share them with the community on the Blue Cat Audio website. This tutorial uses Blue Cat's Stereo Triple EQ for the demonstration bu...

[Read More...]

Tutorial - Getting Started with Plug- ins User Interface

Get used to the user interface features of Blue Cat Audio products! They have been designed for an optimal workflow, so here are the tips and tricks to save time. All these functionalities are explain...

[Read More...]

Tutorial - Blue Cat's Digital Peak Meter Pro Video Overview

LoopTV brings this video guide to the Digital Peak Meter Pro VST audio monitoring plugin which is from Blue Cat Audio with producer Dom Kane. Blue Cat's Digital Peak Meter Pro (DPMP) is a unique ...

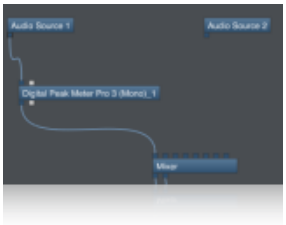
[Read More...]

Tutorial - Using MIDI Control in Sonar

This tutorial will help you understand how to use parameters MIDI control in Cakewalk Sonar. It is applicable to any DXi plug- in (MIDI enabled DirectX plug- in)....

[Read More...]

Tutorial - Using MIDI Connectivity in a Modular Host (Plogue Bidule)



This tutorial shows you how to use the MIDI connectivity of our plugins in a modular host such as Plogue Bidule. We are using the Mac version of Bidule in this tutorial. The scenario here is very sim...

[Read More...]

Tutorial - Monitor Mid- Side Channels, Mono Compatibility and Phase Inversion

This tutorial shows how to use the Widening Meter Pro analysis plugin to monitor the Mid and Side channels on a mix. It allows you to check the mono compatibility of a mix, as well as its "stereoness...

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Tutorial - Level Monitoring with Blue Cat's Remote Control

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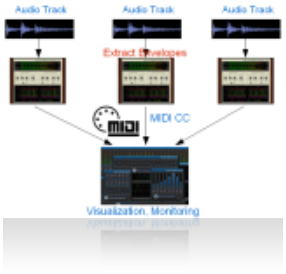

This tutorial shows how to use the Remote Control MIDI control surface and Blue Cat's DP Meter Pro analysis plugin (DPMP) to monitor several tracks in a same screen, on graphs or meters you can custom...

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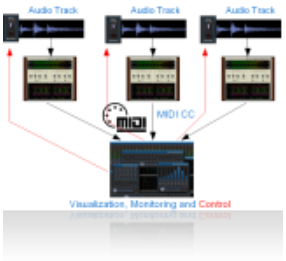
Tutorial - Remote Monitoring and Control with Blue Cat's Remote Control



This tutorial shows how to use the Remote Control MIDI control surface and DP Meter Pro audio analysis plugin (DPMP) to monitor and control several tracks in a same screen. Before you read this tutori...

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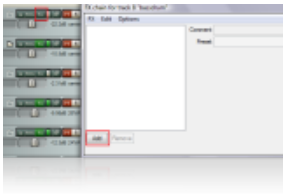
Tutorial - Using Blue Cat Audio plugins connectivity in Reaper



This tutorial shows how to use our plugins MIDI connectivity within Reaper. We use Blue Cat's Dynamics plugin as an example, but you can use any other audio plugin which provides output parameters, su...

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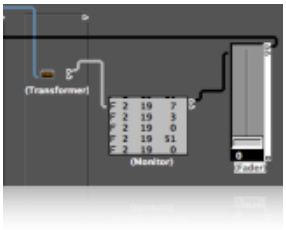
Tutorial - Connecting plug- ins together in Logic for advanced side chain effects



This tutorial shows how to use the connectivity capabilities of our plugins within Logic. We use Blue Cat's DP Meter Pro plugin (DPMP) as an example, but you can use any other audio plugin which provi...

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Tutorial - Using Blue Cat Audio plug- ins connectivity in Pro Tools

This tutorial shows how to use the MIDI connectivity of our plugins within Pro Tools. We use Blue Cat's DP Meter Pro plugin as an example, but you can use any other audio plugin which provides output ...

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Tutorial - Audio Metering mit dem Digital Peak Meter Pro 3 (German)

Blue Cat's DP Meter Pro (DPMP) ist ein einzigartiges Audio- Analyse- Tool. Es enthält sehr flexible und anpassbare Audio Meter sowie weiterführende Side Chaining- Control- Möglichkeiten dank MIDI- Ausga...

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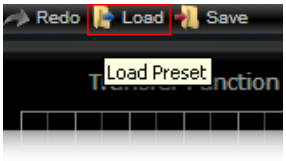
Tutorial - How to Use the Free Presets Available on this Website



This tutorial shows you how to get and load free presets for your favorite Blue Cat Audio plugin. This tutorial uses Blue Cat's Dynamics for the demonstration but is applicable to all our plugins...

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Tutorial - Simple Dynamic Stereo Enhancement

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This tutorial shows how to use the Widening Meter Pro and the freeware Gain Suite plugins to enhance the stereo perception of a track. It's a very simple example of how to connect the measurements cap...

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Updates

As you can see in the history log below, we care about constantly updating our products in order to give you the latest technology available. Please visit our website often to check if Blue Cat's DP Meter Pro has been updated, or subscribe to our Newsletter to be informed of the latest news about our products.

You can also follow us on twitter and facebook for almost real time updates notification, and subscribe to our YouTube channel to see the latest videos about our software.

Versions History

V4.05 (2014/01/09)

New Features:

- Copy/ paste the plug- in's current state from the presets menu using the system clipboard.

Improvements:

- Reduced the plug- in's memory usage.
- Windows VST Installer now remembers where the plug- in was initially installed to simplify upgrades.
- (Mac) plug- in version number is now available when using "Get Info" in the Finder.
- (Mac) Improved display of Audio Unit parameters in most host applications.

Bug Fixes:

- Fixed window frame not showing with Cubase 7.5 (32- bit) on Mac.
- (Mac) About window does not show up first in the corner of the screen anymore.
- (Win) Alt- Click on a control now resets the value to default in Pro Tools, as expected.
- Fixed version number reported to host application for VST and Audio Unit versions.

V4.04 (2013/06/21)

- 64- bit AAX support for Pro Tools 11.

V4.03 (2013/05/14)

- Fixed AAX version not showing up in Pro Tools 10.3.5 on Windows.
- Fixed user interface display issues when first opened in Ableton Live 9 (Mac).
- Mac: Control MIDI settings dialog now brought back to front when already opened in the background.
- Mac: fixed copy/ paste keyboard shortcuts for plug- in registration that did not work in some hosts.

V4.02 (2013/04/15)

- Fixed yellow zone that disappeared in some cases.
- Fixed MIDI and automation settings that were reset when using undo.
- Fixed compare button issues in Pro Tools.
- AAX: Fixed initialization issues on some Pro Tools HD configurations.

V4.01 (2013/03/07)

- Changed default preset so that the plug- in fits into small laptop screens when opened.
- Mac- VST: Fixed window resize issues on Cubase and Nuendo (Mac).
- Mac- Audio Unit: Fixed random crashes at startup in some host applications.

V4.0 (2013/02/19)

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New Features:

- Instant and average crest factor measurement.
- Peak, RMS and crest factor histograms.
- Control the attack and release shape of the peak envelope.
- Surround support (up to 8 channels).
- Brand new fully customizable user interface:
    - New look and feel.
    - Show/ hide what you need.
    - Fully customizable meters characteristics (range, headroom, color ranges).
    - Control the brightness of meters and graphs.
    - Meters and curves can now be frozen.
    - New colored statistics display.
    - Multiple display sizes.
    - Improved readability.
    - Animated transitions.
- New integrated presets manager:
    - Load/ save presets from the plug- in's user interface.
    - Organize presets with folders.
    - Customize the default preset.
    - Exchange presets easily.
- Automation range and response curve can now be customized for each parameter (in and out).
- Automation and MIDI settings (channel, MIDI learn etc.) are now accessible from the main user interface.
- AAX plug- in format is now also supported on Windows (Pro Tools 10.2 required).
- Audio Suite support for the AAX version for offline levels measurements in Pro Tools.

Improvements:

- Increased levels range (120 dB).
- Increased maximum levels value range for overshoot measurement (up to +10dB).
- Peak average precision has been improved.
- Use hold values and crest factor for transformed envelope generation.
- Simplified transformed envelope generation.
- New presets to get started faster.
- Plug- in name has been shortened for a clearer display in mixer view for most host applications.
- The windows installer now automatically detects the most appropriate VST install path.
- License is now shared between plug- ins types (register only once for all formats).
- Improved value display in fine edit window.
- Improved parameters display on control surfaces.

Optimizations and Performance Improvements:

- Improved parameters precision (now stored as 64- bit).
- More compact presets format (uses less space and loads faster).
- Smaller binaries on Mac (dropped PowerPC support).

Bug Fixes:

- (RTAS) Fixed parameters control with EUCON control surfaces in Pro Tools.
- Fixed user interface issues in Final Cut Pro X.
- Fixed MIDI CC i/ o issues with 64- bit VST.
- Fixed user interface display issues in Wavelab on Mac.
- Fixed keyboard stealing issue in Digital Performer 7 on Mac.
- AAX/ RTAS on Mac: Fixed audio engine freeze or error issue with Pro Tools on some Mac configurations.

Note: this new version can be installed side by side with the previous version for backward compatibility reasons. Installing this new version won't break your previous projects.

V3.5 (2011/07/11)

- Output data rate (MIDI CC or automation) can now be customized, from 20 to 500 Hz.
- Increased the default output data rate (from 20 to 50 Hz) for smoother side chaining and increased meters precision.
- All meters can now be reset with a single button.
- Envelope graphs can now be zoomed.
- Windows: improved settings dialog loading time.
- Mac: user interface performance improvement (up to 30% lighter on cpu).

V3.42 (2011/02/10)

- Fixed keyboard focus stealing issue in Pro Tools and several other host applications.

V3.41 (2010/11/29)

Fixed incompatibility issues with older presets in the previous version.

V3.4 (2010/11/18)

- Added custom K-10 scale support.
- 64- bit Mac VST support.
- User interface enhancements: new look and feel and improved readability.
- Faster user interface loading.
- Reduced memory footprint.
- Improved MIDI and automation output precision: now prevents hosts from wrongly interpolating between values.
- Default release time is now shorter.

V3.32 (2010/03/19)

This update only concerns the RTAS version of the plug- in:

- RTAS plug- in bug fix: when using both the mono and stereo versions in the same session, the controls of the instances were linked together.

V3.31 (2010/02/25)

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- Demo version now displays a nag screen only once per session, and only when opening the user interface of the plug- in.
- Mac: fixed crash with demo version in Ableton Live 8.1.1.
- Mac AU: output parameters routing now works for more than one instance in Logic Pro's Environment.
- Mac AU: fixed output parameters that could exceed defined range and not record properly as automation curves.

V3.3 (2010/02/15)

- RTAS plugin format support for Pro Tools (Mac and Windows).
- 64- bit applications support for Windows DX and VST under Windows x64.
- Mac AU 64- bit format support (compatible with 64- bit Logic 9.1 on Snow Leopard)
- Fixed MIDI learn issues.
- Space bar does not trigger plug- in buttons anymore (avoids conflict with transport control in most applications).
- Mac: fixed user interface crashes in some hosts under Snow Leopard.
- Mac: fixed keyboard/ mouse focus issues in some hosts.
- Mac: fixed user interface crashes in some hosts, when used with particular display settings.
- Mac: fixed multiple screens issue.
- Mac- AU: fixed user interface resizing issue when changing skin in some hosts (Logic).
- Mac- AU: fixed settings lost issue when doing offline rendering in some applications.

V3.21 (2009/05/05)

Mac VST update: fixed incompatibility issues with Cubase 5 on Mac.

V3.2 (2009/02/27)

- Mac Audio Unit support.
- Improved accuracy of MIDI output.
- Automation output can now be disabled for hosts that do not propose automated parameters choice.
- The average RMS value now corresponds to the RMS level of the entire song played thru the plugin.
- New Windows Installer (you should uninstall any previous version before installing this new one).
- New documentation format.

V3.1 (2008/12/10)

- Now available for Mac in VST format.
- Minor user interface changes.
- (Bug fix): keyboard shortcuts are no longer forwarded to host application when entering values in edit boxes.

V3.0 (2008/03/03)

- New user interface design.
- Bob Katz's K- System scales support (K-12 / K-14 / K-20).
- You can now blend RMS and Peak envelopes for the tranformed output.
- New mid- side mode: you can now easily switch from Left- Right to Mid- Side stereo mode for instant mono compatibility check.
- Average values display.
- The output envelope can now be a combination of the peak and RMS envelopes.
- Main MIDI settings are now available from the main panel.
- Undo/ Redo support.
- Import/ Export presets in a host independent format and share them between the directX and VST versions.
- Window Opacity Management: make the plugin window transparent and see behind.
- New toolbar to access main functionalities.
- Main MIDI settings are now available from the plugin user interface.
- Curves are now anti- aliased.
- Improved the display of parameters values in the MIDI settings panel and the host application.
- Improved graphs refresh rate.
- Reduced memory consumption when using several instances.
- Improved Skins loading performance.
- Default values for MIDI controllers have been changed to be more convenient.
- Blue Cat's Skinning Language 1.4.2 support.
- *Warning:* this new version has so many new features that it is installed as a new plug- in. If you have a previous version installed and do not want to keep it, just uninstall it.

V2.4 (2006/12/11)

- (Bug fix): the preset MIDI output settings were not restored correctly when re- opening a project or changing a preset.

V2.3 (2006/11/29)

- Now supports Blue Cat's Skinnning language 1.2.4.
- Curves are now antialiased.
- Parameters can be fine tuned when the shift key is down.
- CPU efficiency improvement: no processing occurs when input is silent.
- Settings window now loads faster.
- (Bug fix): in some plug- in adapters (such as FxPansion's VST to RTAS adapter) the GUI did not display properly when first loaded.
- (Bug fix): when reinstalling the software in another directory, the "skin not found" message was displayed.

V2.2 (2006/09/27)

- Minor UI enhancement for hosts not supporting Windows XP Theme.
- (Bug fix): presets load/ save did not always work properly in Sonar 5 for some european versions of Windows XP.

V2.1 (2006/09/05)

- VST version bug- fix: some host applications did not see the MIDI output of the plug- in.

V2.0 (2006/09/04)

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- The plug- in is now 100% real time thanks to the MIDI output capability: generated envelopes can be used to control any MIDI device or plug- in.
- Advanced MIDI control with customizable parameters curve response and MIDI learn.
- Skinnable User Interface with Blue Cat's Skinning language V1.2.1 support.
- RMS value
- Real time envelopes display
- All parameters can now be fine tuned thanks to a text- edit popup window that appears when double clicking on user interface widgets.
- *Warning:* because it now supports MIDI events, the DirectX plug- in may appear in the "Synth" or "DXi" category instead of "effects" in some hosts (such as Cakewalk Sonar). If it does not appear in you host, you might want to use our DXi Manager to de- activate MIDI features.
- *Warning:* this new version breaks the presets compatibility, and is thus installed as a new plug- in. If you have a previous version installed and do not want to keep it, just uninstall it manually.

V1.1 (2005/01/10)

- VST Version released.
- GUI Improvement: now supports non- standard DPI Settings.
- The plug- in now also records clip information.
- The parameters have been simplified.
- Version info now shown in about box (click on logo).
- (Bug fix): host may crash when stopping playback and the "Off" button of the peak meter is pressed.
- decay time can be set up to 1000 ms.

V1.0 (2004/11/01)

First DirectX Version

Thanks again for choosing our solutions!

See you soon on www.bluecataudio.com!

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